

AIRFIX

magazine

DECEMBER, 1966

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MONTHLY



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THIS
ISSUE**

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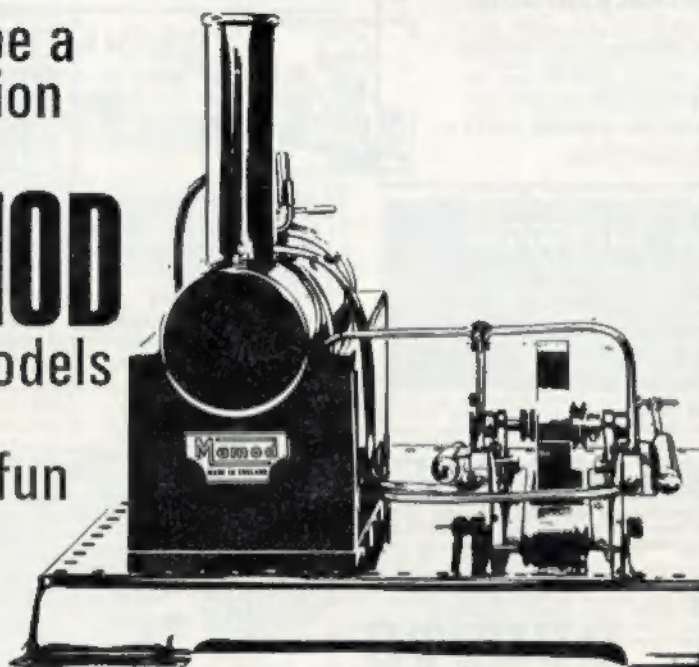
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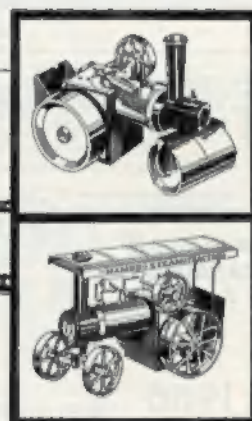
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Fig. 1



Fig. 2



Fig. 3

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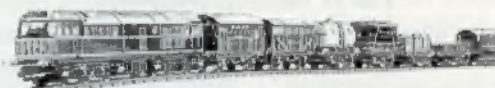
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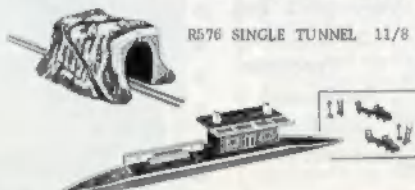
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AIRFIX magazine

AIRFIX

Volume 8, Number 4

FOR PLASTIC MODELLERS

magazine

December, 1966

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COVER PICTURE

Leeward Islands Air Transport (LIAT) is currently operating two HS 748s on daily tourist/shopper-special island-hopping flights round the Caribbean, based on Antigua. The routes take in St Kitts, St Thomas, San Juan, Guadeloupe, Dominica, Martinique, St Lucia, St Vincent and Barbados. The HS 748 has proved extremely economical for this type of operation with refuelling turn-round times averaging only 10 minutes and LIAT have an option on a third aircraft.

(Illustration courtesy Hawker Siddeley Ltd)

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Editor.....CHRIS ELLIS
Art Editor.....MICHAEL ROGERS
Advertisement Manager.....PETER MACER

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EDITORIAL OFFICES AND ADVERTISEMENT DEPARTMENT

3-4 St Andrew's Hill, London, EC4
Telephone: LUDgate Circus 8842

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Surridge, Dawson (Productions) Ltd,
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NEWS FROM AIRFIX

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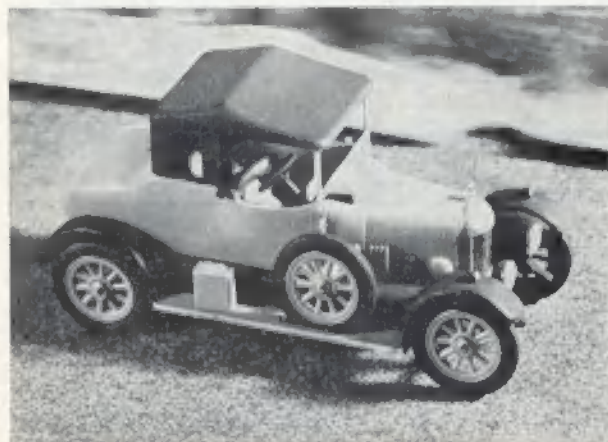
● P-47D Thunderbolt

● 1926 'Bullnose' Morris Cowley

AN oft-requested addition to the Airfix range is fulfilled this month by the introduction of one of the most famous fighter aircraft of all time, the P-47D Thunderbolt in 1:72 scale kit form. The heaviest and largest single-engine fighter of World War 2, the Thunderbolt earned its place in aviation history by fighting on nearly all fronts on missions ranging from long-range escort to ground attack, in the clear skies of NW Europe and the heat of the Burmese jungle alike. More than 14,000 P-47Ds were produced and the 'Jug', as it was affectionately known, proved to be the right aircraft at the right time, a rugged, speedy interceptor and, when modified with wing pylons, an effective fighter-bomber. Thunderbolts widely equipped the fighter groups of the USAAF and a number were supplied to the RAF and, later, other Allied air forces. With its fighting days of World War 2 over, numerous P-47s served for years with many smaller air forces, giving rise all told to scores of optional finishes which keen modellers can incorporate on their miniature Thunderbolts.

For their model, Airfix have selected the earlier production P-47D with 'razorback' fuselage, and the 44-part polystyrene kit comes beautifully detailed and finely moulded to show all panel and surface detail and with many pleasing features. The

Attractive newcomer to the Airfix range of 1:32 scale vintage car kits is this 1926 'Bullnose' Morris Cowley roadster. It costs 2s 3d.



Latest Airfix 1:72 scale aircraft kit is for a USAAF P-47D Thunderbolt, seen here finished as 'Penrod and Sam', one of two optional finishes provided with the kit. Price is 2s 3d.

machine guns, for instance, are separate mouldings inserted into the wings during construction, and the cockpit is complete with two-part canopy and the bullet-proof panel which fitted inside the front screen. The big paddle blade propeller and a detailed replica of the 2,300 hp Pratt & Whitney Double Wasp engine are included, while the method adopted for assembling the wings and belly of the model obviate ugly join lines and ensures that the correct dihedral is obtained quite simply.

Of particular appeal to modellers who like variety with their kits, Airfix include sufficient transfers for two optional finishes. One is the famous 'Penrod and Sam', the P-47D flown by USAAF ace Major Robert S. Johnson of 62 Sqn, 56 Fighter Group, stationed in England, while the other is an olive drab machine of 8 Fighter Sqn, 79 FG, 12th Air Force, flying in Italy.

The Airfix Thunderbolt is complete with pilot, display stand and instruction sheet. It costs 2s 3d.

AIRFIX 1:32 car kits are deservedly popular among modellers who appreciate the great amount of detail supplied at a modest price. The latest 'gem' of a model in the vintage and veteran series is one of the most attractive cars of the 'twenties, the famous 'Bullnose' Morris Cowley. A tourer version of the 1923 'Bullnose' has long been a popular Airfix kit among car enthusiasts and the new model, which depicts a 1926 roadster represents the last of the series to be produced before Morris changed over to the more functional but less attractive conventional radiator shape.

The new kit is a two-seater, a popular style of the 'twenties, and comes with an optional rumble seat that can be fitted into the long luggage boot at the rear. Another option is the hood, which can be represented in either the open or folded positions, a choice of parts for both being supplied. Detail features included comprise mirror, springs, exhaust pipe, sump, transmission, brake and gear levers, a horn, a starting handle, and petrol cans and toolbox. In addition there is a side-mounted spare wheel. Adding a final touch of 'twenties realism is a driver figure clad in typical period dress. The completed model from this 50-part kit measures 4½ inches in length and comes complete with instruction sheet which includes cut-out printed registration plates for cementing to the number plates supplied in the kit. The price is 2s 3d.

BUILDING AND FINISHING AN AUSTIN VAN

by Bernard King



ONE of the pleasures of the Airfix range of model cars is the enormous variety of conversion and scratch-building possibilities available from the use of wheels, seats, lamps, springs, chassis members, and other parts found in the various kits. A favourite model of mine is an old-time Austin van which I made from plastic card and the Airfix Darracq, inspired by photographs in a transport publication and the thought that commercial vehicles of the early days of motoring are not well represented in kit form.

In fact, commercials often make good conversion subjects as they usually have box-like bodies which lend themselves to easy assembly in ordinary card or plastic card. This Austin van is no exception, and anyone wanting a fairly simple, but attractive, addition to his collection will find the finished job most satisfying.

To make the work as easy as possible, I've given a scale drawing with all dimensions marked. The conversion of the Darracq chassis is simplicity itself. It is assembled in the normal way, but extended in the centre by a 21 mm long insert of balsa wood, or even scrap plastic if you have any of suitable thickness. The radiator must have its sides straightened by filing and sanding, while the bonnet, which is shortened to

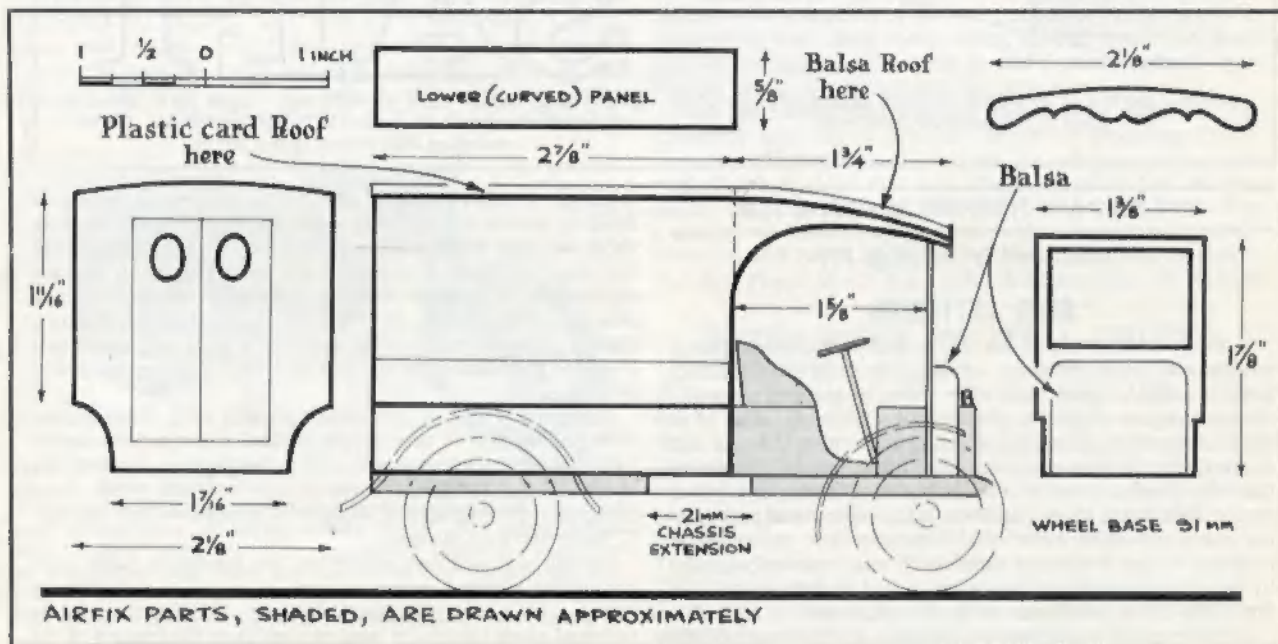
Prototype of the model Austin van, seen here in Spanish hands.

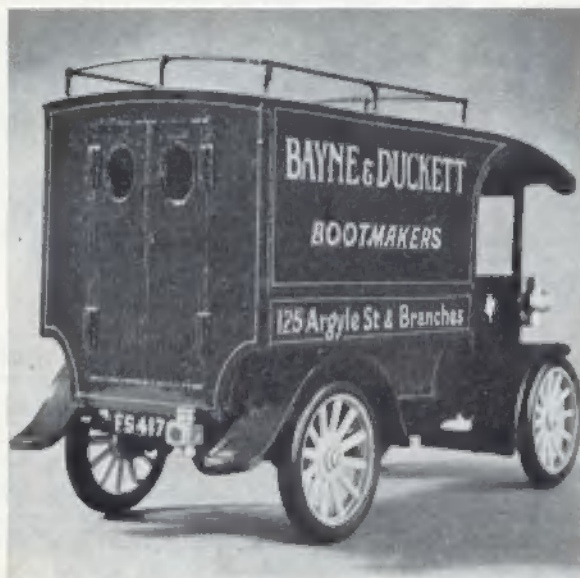
$\frac{3}{8}$ inch long, is fitted behind the new dashboard and scuttle. The scuttle is made from balsa wood and the scuttle and windscreen section is cut from plastic card. Wheels, springs, axles, mudguards, lamps, starting handle, seat, steering wheel and brake lever all come from the Darracq kit, of course.

With the chassis complete, the body is relatively easy, though care is needed with the curved 'tumble homes' joining the body to the chassis. Card curved round a pencil is commended for these. Remainder of the body can be made from plastic card, except for the cab roof which curves downwards and sideways. I used balsa for this.

With the model completed, it can be painted as desired, but I am of the opinion that after you've spent time and trouble on making a distinctive model, it is well worth while making an equally good job of the finish. For this old Austin I chose the style and lettering illustrated in a picture of a 1904 Albion A3 van reproduced in *Old Motor*. The remainder of this article is, therefore, devoted to my own methods of model lettering.

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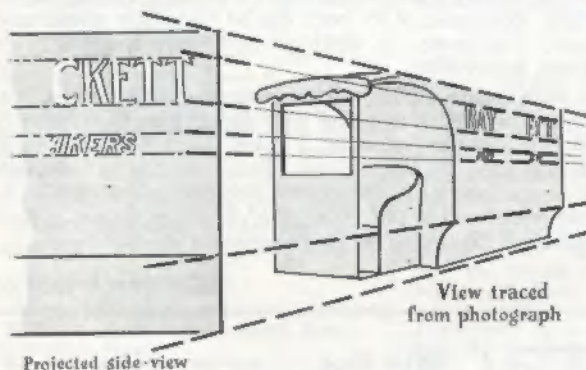




Rear view shows door and 'tumble homes' at bottom of body.



Above: The pencil trace is Sellotaped to the body.



A simple method of projecting lettering to correct proportions from a three-quarter front view.



Right and wrong ways of lettering. Upper view shows a complete disregard of basic lettering principles. Correct matching thicknesses shown below.

BUILDING AND FINISHING AN AUSTIN VAN

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GOOD LETTERING

It always seems a pity to me that so many otherwise excellent models are spoiled by poor lettering. It must be admitted, however, that a good deal of practice is required to make miniature signwriting look professional. Obviously, most of us cannot hope to acquire long hours of continuous practice and so we must resort to any short-cuts which may help us to get that clean, crisp finish of the professional. One point which causes difficulty to many beginners is the necessity of maintaining consistent thicknesses of downstrokes and upstrokes. I once saw a very fine model tram which was completely spoiled by the advertisement, on the side, which had been drawn without any study of the consistency of stroke thicknesses.

Another point which causes difficulty is the layout of the

lettering; it takes years of practice to arrange the words to finish in exactly the right place without first carefully marking them out, and most models are far too delicate to withstand the wear and tear of marking and remarking. This process should not, in fact, be done on the actual model. First, the side view of the model, or whichever view is required, is drawn out on paper. If no drawing exists, it is easy to prepare one from the model after the manner of a brass rubbing using thin writing paper.

Often the layout of our choice appears in a three-quarter view photograph. A very simple method of projection enables us to lay out the lettering accurately. This method, incidentally, is also useful for preparation of side and end views from perspective photographs of any size. It is an advantage, though, to know the overall sizes.

Having sketched and re-sketched the layout on paper until completely satisfied, a pencil trace is made of each line of lettering on a separate piece of paper. This tracing, closely trimmed along the top, is used as a guide to the spacing of the

AIRFIX magazine

letters by sticky-taping it immediately below the area where the lettering is to go.

CORRECT POSITIONING

It is most important to remember that the neatness of the lettering depends, to a great extent, on ■ correctly maintained top and bottom limit of the letters. I have often seen letters painted on a model without any attempt being made to mark out the position of the upper and lower limits which results in a most amateurish effect. At this point we are again faced with the problem of the delicate model not being able to withstand marking and re-marking.

A method I have employed to great effect is one which is more usually used for obtaining a straight edge when painting the model initially. It is, of course, Sellotape. I use it slightly differently in that I cut a light coloured tape—yellow for instance—into narrow strips of about $\frac{1}{4}$ inch wide as a guide to the letter positions. The only marks which are actually made on the model are very small poster colour dots at each end of the lettering run taken from the layout diagram described earlier. Against these dots is placed a strip of Sellotape (clear tape is not satisfactory as it does not visibly indicate the lettering limits). The tracing is attached with tape, correctly positioned immediately below the position of the lettering.

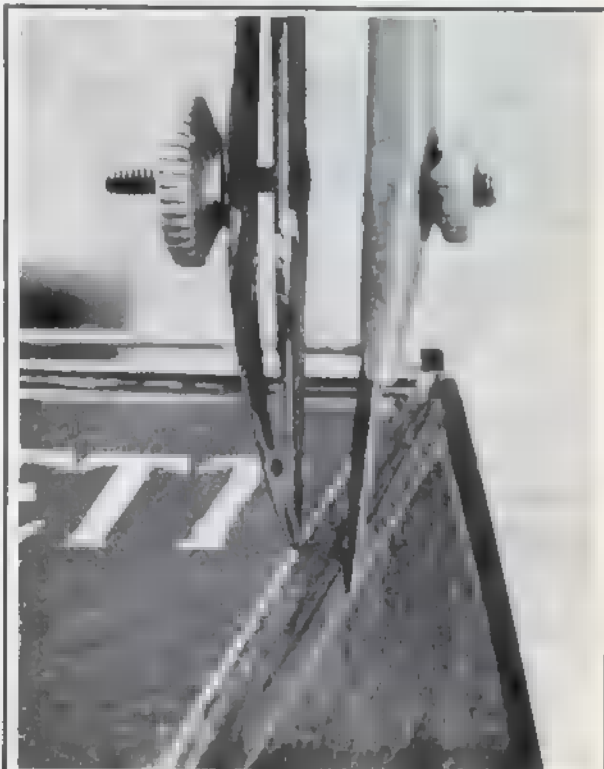
The actual painting can now begin. I prefer a No 3 brush using Humbrol, or equivalent paint, but it must be mixed to the exact consistency. The best way to judge this is to add ■ small amount of white spirit (turps substitute) to the paint mixed in a small palette until it flows nicely from the brush. It must *not* be mixed so thinly that it runs along the edge of the Sellotape like a tiny gutter. This mixing is most important. During the actual painting, check frequently that the paint is 'just right'; a small amount of paint in a palette or tin lid soon becomes sticky and unworkable.

At this stage, with Sellotape strips in position, it does not matter if the upper and lower limits are exceeded a little, making it look rather untidy; in fact, the first time I used the method I feared the worst. The paint was straying over the Sellotape giving a scrappy look to the letters. This does not mean, of course, that one can afford to be careless; those guiding edges of the tape are there for a purpose.

An objection to the use of sticky tape has been that when removing it there is a danger of pulling up the base colour. By removing it very slowly no trouble is experienced in this respect. It is now that one gets the full effect of the masks; as the tape peels a beautifully sharp, straight edge to the letters quickly eliminates all those fears built up during the painting by the apparently scruffy edges. Round and sharp letters such as

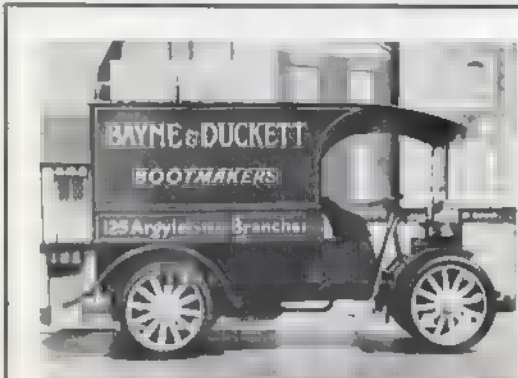
A, O, S, V, etc, should project very slightly over the line. This can be allowed for when painting so that they can be retouched after the removal of the tape.

One other dodge is the use of a draughtsman's bow-sweeps, or compass, for lining-out the edges of a model. By extending the needle point and running it along the edge of the model the neat livery can be quickly completed. Poster colour was found to be more suitable in this drawing instrument but it will not



The lining can be done with a draughtsman's compass. Method is shown here.

take well to glossy paint unless the surface is first prepared by rubbing over with a soft pencil eraser. The poster can, when dry, be sealed with a coat of varnish thinned a little with white spirit.



Nearside and off-side views of the model show the details mentioned in the text. Careful lettering transforms this model into a showpiece.

MILITARY MODELLING

by

C.O. Ellis



Above, top to bottom: An AEC runway control van guides an Anson into Turnhouse. Note the black and white check finish. (Photo by P. Campbell). A T19 showing the 105 mm howitzer mount and details. A T30 with 75 mm Pack gun.

STRICTLY speaking the inclusion of RAF motor transport in this Military Modelling column is cheating, but such has been the demand for airfield accessories from readers in recent months that conversions from the recently introduced Airfix Matador kit to RAF variants of this famous vehicle cannot be ignored. This month's first model subject is a purely RAF type, the ubiquitous runway controllers' caravan mounted on a Matador chassis. Regular readers will recall that our January, 1964, issue carried an article devoted to a 'dumb' (or non-powered) version of this control caravan, and anyone who can turn up this

Runway van and sp guns

copy will find it useful reference in conjunction with these notes on a Matador-mounted version.

Motorised control caravans are used particularly on large airfields and the type built on the Matador chassis was—and is—widely used. In model form such a conversion is exceedingly simple and the work involved concerns only the body. The Matador chassis can be assembled exactly in accordance with the Airfix instruction sheet, the only addition being a circular 'blank' cut from plastic card to seal off the roof hatch—use a wheel hub to get the right diameter—and a 15 mm x 16 mm rectangle of paper cemented over the slats on the driver's side of the roof. The completed chassis assembly may then be painted, khaki for a wartime vehicle or RAF blue mixed from dark grey with a touch of dark blue—for a peacetime period model.

While the chassis is set aside to dry, work can begin on the caravan body. This is far simpler than it looks, the secret being to use the artillery tractor body from the kit as a basis for the new structure.

Start, therefore, by following the instruction sheet and assembling the tractor body exactly as described in the kit instruction sheet. When it is dry use a file or sharp craft knife to remove the moulded detail from the surface of the body. This *doesn't* apply to the planking or canvas texture of the tilt, but it does refer to the strapping, door detail, and hinges plus any other parts which stand proud. This takes only a few minutes and need not be neatly done.

The new body sides and ends are best made from 40

thou plastic card and are drawn out to match the length and width of the gun tractor body and with a height of 24 mm—higher than the top of the tilt it will be noticed. Thick card could, of course, be used instead. The parts are cut out and cemented over the tractor body, just as simply as that. Now draw out a flat roof, again taking dimensions from the tractor body, and mark the centre line before cutting out. Measure 15 mm from the intended front edge and mark and cut out an aperture measuring 12 mm wide and 14 mm long using the centre line as a datum. This gives the opening for the runway controller's observation 'pagoda'. With the roof cemented in place the body is now ready for detailing. If you have any Slater's Microstrip use this to make the heading all round the edges of each side. Alternatively cut 1 mm wide strips of card with a sharp craft knife and use this for the same purpose.

On each side there should also be vertical ribbing, three uprights positioned 10 mm, 30 mm, and 44 mm respectively from the first edge on each side. On the left hand side only there should be a door 20 mm high x 8 mm wide close up against the leading vertical support. This gave access to the power generator situated in the front left hand corner of the body. Immediately ahead of this front support and starting 4 mm from the lower edge of the body there should be a 7 mm deep grille for the genny. This is best depicted in model form by tiny 1 mm wide strips of paper cemented to overlap in louver fashion. The grille is 4 mm wide. Another grille of the same width, but only 4 mm deep is

situated 2 mm below the top edge on the body front and 2 mm from the left hand edge. In the centre of the rear of the body goes a full-depth door 8 mm wide with a double tread step below it fashioned from card strip. A single U shape tread is fitted beneath the side door. These doors, by the way, are simply cut out of stiff paper and stuck in place.

Now only roof detail remains to be added. First of all make a 5 mm X 8 mm ventilator 3 mm from the front and left side of the roof edge: this is merely a piece of card stuck above a slightly smaller piece to give a 'mushroom' vent effect. Then a beacon is required on the centre line, 4 mm from the front edge, and a suitable one can be represented by the end of a piece of plastic sprue. If you are modelling the wartime period, a whip aerial is required in the extreme right hand corner of the roof. For the post-war period a VHF aerial is required, made up in the shape of a cross with a central upright piece as well. Finally the controller's 'pagoda' is added and this is best made up in greenhouse fashion, 4 mm high at the sides and with the ends rising to 5 mm in the centre, using Plastiglaze.

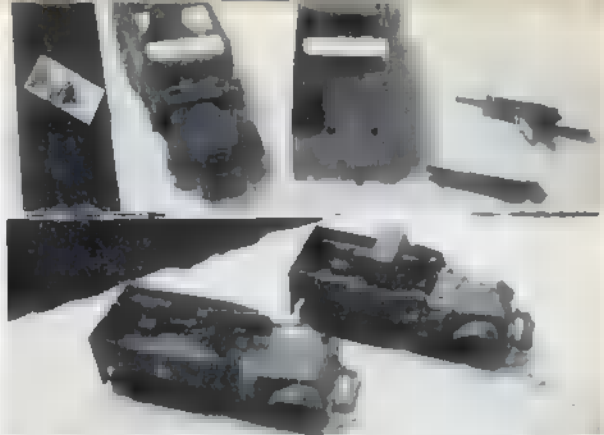
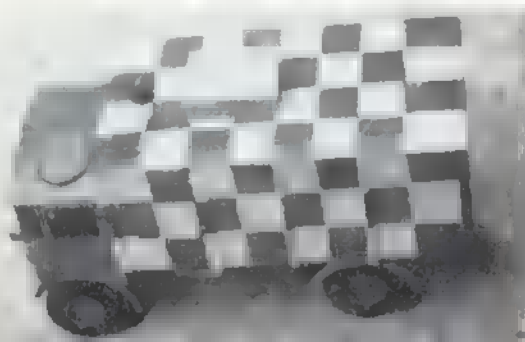
US SELF PROPELLED GUNS

PRESSURE of space lately has also prevented me from dealing as much as I would have liked with conversion possibilities from the M3 half track so now is an apt time to make amends with descriptions of two pleasant little sp gun adaptations used by the US Army and useful additions to anyone's wargame armoury or military collection.

Easiest of the two is the T19, a successful marriage of the M3 chassis with the standard M2A1 105 mm howitzer, and a vehicle which would have been more widely used had not a tracked chassis (the M7) become available in sufficient numbers to replace it. I found that this conversion took less than an evening's work, completion being hastened by the alteration of 25 pdr parts to depict the 105 mm howitzer. Dealing with the chassis first, this is assembled in accordance with the Airfix instruction sheet except that the bulkhead (part 12) is cut down to the top of the driver's and passenger's seat squabs *before* assembly and the fuel tanks are re-sited at the rear end of the fighting compartment. The two rear seats are also re-sited here, and the armoured windscreen (part 26) is omitted for the time being.

A mounting plate for the gun is made from 36 thou plastic card, cut to 6 mm X 25 mm and drilled through the dead centre to take a pin or plastic pivot. This is cemented across the bulkhead top as shown in the picture. From the Airfix 25 pdr kit you should extract the gun barrel and gun carriage sides—the remainder of this kit can be converted to a Morris truck. I gave drawings for a 105 mm howitzer in our May, 1965, issue but for those without this will see easily enough what is entailed. A recoil cylinder 19 mm long—from scrap plastic—is cemented above the barrel and

Below: Completed model of the AEC Matador runway control van showing the detail work on the body. Note the blanked off hatch vent, grille, beacon, and side door. Strictly speaking the 'pagoda' should have a clear roof but a 'solid' roof as shown simplifies the construction.



Top: T30 under construction on left showing gun mount, ammunition lockers, and construction of the shield and gun. T19 on right has gun mount in position and 105 mm howitzer alongside. Unmodified 25 pdr barrel is shown for contrast. **Above:** The completed models.

the gun cradle is cut back from the front end to match it in length. Then a couple of bands (from Sellotape) are wrapped around the whole assembly. The arrangement is clearly seen in the prototype picture. When describing the Priest, I omitted the rearmost band as the breach end of the gun was concealed in the embrasure. Similarly I did not bother to alter the trunnions which were also concealed. With the gun exposed, as on the T19 model, it is necessary to carefully cut off the trunnion pins from the gun cradle and re-cement them to the cradle immediately ahead of the breech. Ensure that they are in line and square. A 10 mm long loading tray can be, meanwhile, cemented to the breech. The 25 pdr carriage sides, in which the trunnions are inserted, should be modified in shape by gently filing as near as possible to the appearance of the 105 mm carriage sides.



Full-size drawings for T30 gun shield front, bottom, and side pieces.

The barrel and carriage sides are now assembled and a small 6 mm square of plastic card, with pin inserted through its centre, is used as a pivot plate. When the whole lot is dry you'll find that it can be dropped into the mounting plate, allowing the gun to elevate and traverse. Any tendency to looseness can be overcome with a small piece of Plasticine beneath the mounting plate and the whole assembly will, in any case, stiffen up after painting. On the actual vehicle, the gun traversed 20 degrees either side and elevated from 5 to +35 degrees.

The front armoured screen was dropped—and often removed entirely—when in the combat zone, so can be omitted if desired from the model. There was no frame fitted to take a tilt, so the frame moulding above the door flaps should be removed. Diamond built 324 T19s for the US Army, and the type was introduced in October, 1941. They were not widely used, being succeeded by M7s in the armoured units for which they were intended. I believe some units of the First Army in Tunisia in 1943 did, in fact, take T19s ashore with them. For the record, the 105 mm howitzer had a range of 12,205 yards, 11,700 at maximum elevation. Due to the weight of the mounting only eight ready use rounds were carried on the vehicle. A half track

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IN THE AIR

by Alan W Hall

IN these days, when almost all categories of flying have to have a title, 'executive' aviation has become a world which has gained popularity not only with the people who use aircraft regularly but with the general public. Little do they realise that the Royal Navy has since before the war been intimately concerned with this kind of flying and are now past masters of getting their 'executives' from place to place with speed and precision.

I saw something of this when I visited No 781 Squadron, Royal Navy, at their home base at Lee-on-Solent recently. Lee, known as the 'home' of Royal Naval flying is an appropriate place for this unit as it is from nearby Portsmouth that most of the squadron's 'customers' come.

The task of the squadron, which is not a very old one compared to some Fleet Air Arm units, is naval communications flying and like Topsy, it 'just grew'. After operating as a Fleet Requirements Unit in East Africa during the war, its first associations with Lee-on-Solent came in 1945 when it was reformed at that station as a training unit. The job of moving admirals around their commands, transporting important stores and the many odd jobs that fall the lot of certain units began to grow over the years. Slowly the training commitment gave way to communications flying until, in 1954, No 781 took on the job full time. On April 4, 1955, the first Sea Devon arrived and these aircraft have since been the mainstay of the Navy's transport routes.

The officers and men of No 781 Squadron pride themselves on being one of the busiest units in the Navy. With three Herons, five Sea Devons, and three Whirlwind helicopters stationed at Lee they not only run a frequent 'airline' schedule to naval bases in the UK but are constantly asked to provide aircraft for a great many other tasks as well. Continental flying is almost routine and they go as far afield as Malta and Gibraltar in one direction and Stockholm in the other. Recently they have completed two unusual trips, one to Iceland and the other behind the Iron Curtain to Gdynia in Poland carrying senior RN officials to conferences.

Passengers - there were more than 2,000 carried last year - range from royalty, foreign VIPs and the most senior commanders of the British and NATO navies to the most junior seaman who for some urgent operational or compassionate reason may want to get from Portsmouth to Lossiemouth, for example, in a hurry. The squadron flew more than 4,000 hours last year and expects to reach just short of the 5,000 mark during 1966. They also transported more than 20 tons of freight last year, which is no mean feat in an aircraft as small as a Devon or Heron.

The man who looks after this complicated flying organisation is a veteran Navy flyer who cut his aeronautical teeth on Nimrods and Skuas before the war. His name is Lieutenant Com-



Back on to the apron at Lee comes a 781 Sqn Whirlwind HAS22 in its smart 'parrot green' and white admiral's barge colour scheme. 781 Sqn operates three Whirlwind 22s, two of them fitted as 'barges'.

mander A. W. Webb, and he is the Air Operations Officer of the squadron. When I arrived at his busy office in Lee-on-Solent Air Traffic Control he was about to see off a visiting Middle East VIP, arrange alternative means of transport for an admiral who might get stranded through bad weather in Scotland, and deal with the flying schedule for the following week. Within the space of a few minutes he had answered telephone calls from Yeovil, Lossiemouth and Exeter airfields and had answered my own questions. 'This', he said, 'was not a busy day!'

Later in the morning I met the CO of No 781 Squadron, Lieutenant Commander R. A. Shilcock, after he had returned from a trip in one of the Herons. He told me something about the aircrew on the unit. I had already noticed that most of them were obviously seasoned aviators and this was confirmed. Apparently 781 Squadron is looked on as a very good appointment for senior pilots and there were few of the seven who were below the rank of Lieutenant Commander. Most of them had also held operational commands in other squadrons, and flying the Navy's bus service was quite new to them after aircraft like Sea Vixens or Scimitars.

Below: Heron XR445 of 781 Sqn makes a fine subject for a 'repaint' conversion of the Airfix Heron kit. Colour scheme: silver overall with white top decking and tail, dark blue flash above windows, and lettering and serials in black. Squadron crest may be seen on the tailfin. **Below right:** Engine check for a Heron of the Navy's Clipper service. 781 Sqn maintains one of the highest utilisation rates in the Navy.



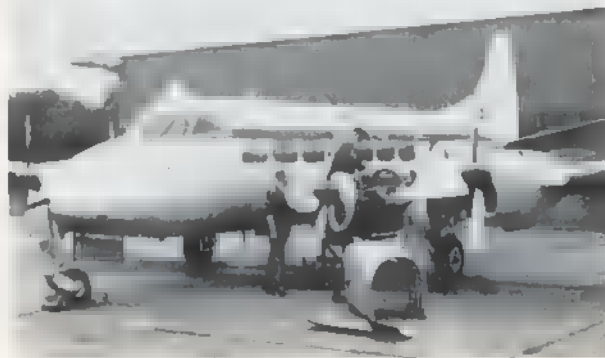


Above: A close view of one of 781 Sqn's Whirlwind HAS22s showing the green and white colour scheme which could be applied to the Airfix Whirlwind; 'Royal Navy' and serial painted in black in the usual positions and not prominent against the green fuselage. Above right: Typical 781 Sqn line up shows Heron XR445 standing beyond green and white Sea Devon XJ350. Note Rear Admiral's flag on nose of the Devon.

By flying transport aircraft all over the United Kingdom and the Continent they were building up a stock of very useful flying hours in what was the equivalent of normal civilian airline operations and I was told that several had in fact taken civilian licences and hoped to take posts with companies like BEA or the independent operators when their service in the Royal Navy was completed.

All of the first line servicing of the squadron's aircraft was undertaken by Admiralty employed civilians. The helicopters were the responsibility of the few Naval mechanics and the whole organisation came under the watchful eye of Lieutenant D. J. Freeman. I asked him about the serviceability rate for the squadron and found almost to my surprise that it was better than 80 per cent. Scheduled services and the *ad hoc* flights made by the Devons were arranged so that essential maintenance could be done without interrupting the requirements of the Air Operations Staff. This meant work at night and on the week-ends. There were few occasions, I was assured, when demand for an aircraft at short notice could not be met. There were a great many computations to be worked out but very few requests were refused.

The Clipper service, which is the name given to the scheduled flights by the Heron aircraft, amounted to 30 per cent of the total flying hours in a year. Two routes are operated, one covering the southern route of Yeovilton, Brawdy, Culdrose and Exeter while the northern route goes to Liverpool, Belfast, Ballykelly, Renfrew, Arbroath and Lossiemouth. The former was operated on a daily return basis whilst the northern route worked up to Lossiemouth on one day and returned the next.



The service operated punctually in all weathers and doors closed promptly at the advertised time. There were seldom any flight cancellations through unserviceability or bad weather.

The Navy has five Herons. Three are permanently attached to the Clipper service and are serialised XR441, '442 and '445. Another belongs to the Naval Aircraft Radio Installation Unit at Lee-on-Solent (XR444) and the last one, (XR443) is kept at Hal Far, Malta, for communications work in the Mediterranean area. All of the aircraft were painted silver overall with white top decking and a broad blue flash down the fuselage sides. The words 'Royal Navy' were in black placed centrally over the cabin windows. A paint-work conversion of the Airfix Heron model was obviously indicated and, adding to my delight, this was possible with the Whirlwind helicopters of the squadron. All three were ex-US Navy aircraft and were HAS22s with straight tail booms similar to the Airfix model. Two of them, WV223 and '224, were in the green of naval barges with a white top decking, while WV204 was painted dark blue-grey overall.

The squadron also maintains another admiral's barge, Seahawk WV856, which reverses the order of the attractive green and white scheme by having the former on all upper surfaces whilst the under surfaces and lower half of the fuselage are in white.

Five Sea Devons are stationed at Lee-on-Solent. They are XJ322, '324, '347, '350 and XK896. XJ348 and XJ319 live at Culdrose and Lossiemouth respectively and are operated from there. Most of the aircraft were formerly civilian operated and came in the G-AMX registration series. Their colour schemes with the exception of XJ350 follow those of the Herons, whilst the odd man out is painted in the traditional green and white of an admiral's barge. This aircraft will in fact be the subject of my kit conversion in the January issue of *Airfix* magazine. Other slight variations on No 781's Sea Devons are the colours of the aircraft's spinners. Most are blue but XJ347 and '348 have red spinners and XK869 has white.

In keeping with the considerable experience of the aircrew on the squadron and the fact that several of their number worked or flew on Swordfish aircraft the non-flying 'SA' is kept and maintained in one of their hangars. Whilst I was there it was being prepared for the annual Taranto dinner which is celebrated in Fleet Air Arm wardrooms everywhere.

Few RAF or RN squadrons have achieved as high a daily utilisation of aircraft as No 781. The experience and skill of both the aircrew and their ground based mechanics is amply shown in the facts and figures I was given.

MILITARY MATTERS

by Peter Chamberlain



An M4 (76 mm) camouflaged and whitewashed in the Ardennes during the winter of 1944-45. Note cylindrical turret and M1A1 gun.

THE SHERMAN STORY

PART 3: LESSONS OF COMBAT

BATTLE experience with the Sherman showed up many faults inherent in the basic design, not least of which was the tendency of early models to 'brew up' with conspicuous ease when hit by a well-placed shell or mine. To some extent this was overcome by the addition of appliqué armour, mentioned in the last instalment, and the fitting of less 'combustible' diesels in later models. In addition Sherman crews used various methods of adding their own extra protection in the shape of spare track shoes, external stores, and even sandbags, carried over the more vulnerable parts of the hull.

By 1944, however, there was a need for improved firepower to compete more effectively with the superior German tank guns and the 76 mm gun was provided to replace the 75 mm guns on the production lines. This new weapon, in turn, required a larger turret to accommodate it and those adopted were the T23 type with sloped sides and rear overhang, and the subsequent 'cylindrical' type which, as its name implies, was of more-or-less cylindrical cross-section.

For improved frontal protection a 47 degree armour plate was added and this also permitted larger access doors for the driver and assistant driver. Finally, new suspension was fitted of the horizontal volute spring suspension type (HVSS) which gave a much improved ride over the vertical volute suspension originally fitted. Wider 23 inch tracks and a centre row of guides were a feature of the new suspension and this compensated for the increased all-up weight of the vehicle brought about by the heavier gun, turret and armour. Some or all of these features were to be seen on M4 variants produced from mid-1944 onwards and the accompanying pictures show the widely differing appearances of Shermans in service by the close of the war in Europe.

The following M4 variants were fitted with the 76 mm gun:

M4 (76 mm): M4s were provided with the 76 mm gun M1A1 or M1A2. This weapon was mounted with a stabiliser in a

power operated 360 degree turret and the gun could be elevated from -10 degrees to +25 degrees. The 76 mm gun used 3 inch ammunition with muzzle velocity, maximum range and armour penetration considerably greater than that of 75 mm ammunition. The 3 inch APC projectile M62 fired from the 76 mm gun had a range of 16,100 yards and could penetrate 4 inches of face-hardened armour at 1,000 yards. A commander's vision cupola was mounted above the turret hatch equipped with six prismatic vision blocks of 3 inch laminated bullet-resistant glass that afforded a wide view. A travelling clamp was provided on the front of the hull to support the gun barrel when travelling in non-combat zones.

M4A1 (76 mm): The first production version of this vehicle mounted a 76 mm gun M1A1 in a turret similar to that of the Medium Tank T23, a pistol port being added for the loader. A vision cupola was provided for the commander with a gun ring hatch over the loader's position. Vertical volute spring suspension was fitted and on the later models this was replaced with the horizontal volute spring suspension. A small oval hatch replaced the gun ring over the loader's position and the 76 mm gun M1A1 was replaced with the M1A1C or M1A2 with a muzzle brake.

M4A2 (76 mm): This version was armed with the 76 mm gun M1A1C or M1A2 mounted in the later cylindrical 76 mm turret with a vision cupola for the commander and a small oval

loader's hatch. The hull had a 47 degree front armour plate and cast one-piece sharp nosed differential housing. The suspension on the later productions was of the horizontal volute spring type.

M4A3 (76 mm): First production models were armed with a 76 mm gun M1A1 in turret similar to that of the Medium Tank T23. A vision cupola was provided for the commander, also a gun ring hatch over the loader's position. This vehicle had the 47 degree front armour plate with the cast one-piece sharp nosed differential housing. Fitted with vertical volute spring suspension and sandshields. The final production version had the wide track horizontal volute spring suspension with a small oval hatch replacing the gun ring over the loader's position. The gun was a 76 mm M1A1C or M1A2 with muzzle brake.

M4 (105 mm Howitzer): Design studies for the mounting of the 105 mm howitzer in the turret of the M4 had been recommended in 1941, and were begun at the Aberdeen Proving Ground in March, 1942. Two pilots were built and tested (M4E5 and M4A4E1) and the vehicles as modified were standardised as M4 (105 mm How) and M4A3 (105 mm How) in July, 1943. Production of these vehicles began in February and May, 1944, respectively.

This modification of the Medium Tank M4 and M4A3 was designed to combine the firepower of a 105 mm howitzer with the performance of a medium tank and to replace the 75 mm Howitzer Motor Carriage in Battalion Headquarters Companies of Medium Tank Battalions. The 105 mm Howitzer M4 was mounted in a combination gun mount M52 with one co-axial 30 cal. machine gun. Other armament was as for M4 and M4A3. Howitzer rounds carried totalled 66. The M4 (105 mm How) had a gun ring hatch for the commander and a small oval hatch over the loader's position. The differential housing was of the cast one-piece sharp nosed type and front armour was set

at 47 degrees. Fitted at first with vertical volute spring suspension and sandshields, on later models the suspension was changed to the wide track horizontal volute type.

The M4A3 (105 mm Howitzer) had a vision cupola for the commander and a small oval hatch over the loader's position. In common with all Shermans mounting the 105 mm howitzer there were two ventilators on the turret top. This variant also had the 47 degree front armour and the cast one-piece sharp nosed differential housing. Suspension was of the vertical volute spring type with sandshields, this suspension being changed on the final production models to the wide track horizontal volute spring type.

Tank Cruiser, Grizzly 1: 188 of these vehicles were built at the Montreal Locomotive Works in late 1943. They were the Canadian counterpart of the US Medium Tank M4A1. Armament was the 75 mm gun M3, with co-axial .30 cal Browning. Canadian War Department Numbers were CT-160194 to CT-160279 and CT-163911 to CT-164012. The chassis of the 25 pounder SP Sexton was fundamentally a Grizzly 1.

Total M3 series and M4 series production during World War 2 was 57,027. Cost per unit as at September 30, 1945, was \$47,339 for the M4A3 with 75 mm gun, \$55,145 for the 76 mm armed version, and \$52,929 for the M4A3 with 105 mm howitzer. M4s ranged in weight from 31 to 34 tons depending on armament and all had .30 calibre co-axial machine guns, ball-mounted .30 cal machine guns in the hull front, M3 2 inch mortars, and at first .30 cal, later .50 cal, Browning machine guns mounted for AA fire of top of the turret. An M2 tripod ground mount ■ carried stowed in the hull.

(CONTINUED NEXT MONTH)

Below, top to bottom: M4A2 (76 mm) of US 2nd Armd Div in Berlin, 1945. Vehicle has all modifications described this month (US Official). M4 (105 mm How) showing distinctive stubby appearance of howitzer (US Official).



Above, top to bottom: The Ram II (see last month) with 6 pdr gun. Compare with Ram I picture last month (Canadian Official). An M4A1 (76 mm) showing the T23 type turret and M1A1 gun without muzzle brake (Warpics photo). M4A2 (76 mm) with cylindrical turret, 47 degree armour plate and M1A2 gun.

NEWS FROM IPMS

COMPETITIONS have been to the fore ■ society affairs in recent weeks. On October 18 came news from America of London member John Wilkinson's success in Revell's World Wide Modelling Contest, his DH 2 being placed first out of a vast number of entries.

Nearer home, the eagerly-awaited Kettering Branch competition took place on October 2, and drew some 150 entries with another 50 or so models on display by courtesy of the local branch. All aspects of plastic modelling were represented.

'Displays 1966' is the title of a slide-show which features at the next London meeting. Covering all the major air displays held throughout the country this year, it promises to be of interest to everyone. Visitors are of course, welcome, the meeting being at St Mark's Hall, Balderton Street, W1 on November 25, at 7.30 pm.

Membership details of the International Plastic Modeller's Society are available from the Hon Secretary, 23 Chadville Gardens, Chadwell Heath, Romford, Essex.—R.J.H.



A captured Me 262B-1a two-seat jet trainer. This aircraft is not featured in this article but can be made from instructions appearing in November.

More Me 262 jet fighter types

ALAN W. HALL, IN THE SECOND OF TWO ARTICLES, CONVERTS THE AIRFIX ME 262 KIT INTO PROTOTYPE, FIGHTER, BOMBER AND RECCE VERSIONS

FOLLOWING my detailed description of how to produce one of the more common variants of the basic Me 262 in last month's *AIRFIX* magazine, I have now completed most of the more interesting experimental and prototype aircraft associated with this type. The Me 262, by virtue of the fact that it was the first really operational jet aircraft in service with the Luftwaffe, lent itself to experiment in the same way as the Meteor did in the RAF. I have included ten variations on the basic theme, starting with the V1 prototype. Many of the modifications are relatively simple to produce, while others like the Me 262B-2a require a great deal of work to convert them from the basic kit. Dealing with ten aircraft in four pages tends to minimise the amount of space available for descriptive matter and I therefore advise the beginner to attempt only the easy ones to start with.

William Green's *Famous Fighters* provided a good basis on which to start research for colour schemes for these models. I have also been helped by Barrie Hygate who produced most of the models and also did the drawings.

Modellers should remember that most of the Me 262 variants had D/F loops behind the cockpit and additional radio masts and port wing pilot heads not included in the kit. Similarly the tailplane is lower than that provided in the kit and the fin and rudder wider at the base. The modifications will have to be made in each case in addition to the operations listed.

CONSTRUCTIONAL DETAILS

Messerschmitt Me 262 V1 Both fuselage and wings are assembled according to kit instructions but the nose wheel strut is omitted. The engine wells under the wings are filled with strips of balsa and sanded smooth. The wing centre section is moved forward so that the wheel wells are 1/4 inch further forward. To do this, cut off the forward part of the section and fill in the rear with balsa strip and body putty when in place. The rest of the undercarriage is assembled according to the instructions but there will be no locating holes into which to place the struts. The pins at the end of the struts should therefore be cut off before assembly.

For the engine much use is made of the Airfix Bf 109G kit. After having filed the nose wheel undercarriage door in the up position, place the Bf 109

radiator from under the nose over it in the position shown on the plan and fill the area with body filler ready for sanding. The cone is cut from the model, rounded a little with sandpaper and the blades from the Bf 109 propeller used by drilling small holes and inserting them. Exhaust stubs are cut from the Bf 109 model and stuck in position. The small fairing on top of the engine was made from scrap balsa (or plastic) and sanded.

The tailwheel came from a Bf 109 also. A small hole is drilled 1/4 inch forward of the rear of the rudder and the tailwheel stuck in place. The doors, 1/4 inch long, are cut from plastic card and stuck in place.

The canopy is moulded from the plan and it is as well to remember that its cross section is semi-circular throughout the length and differs considerably from that supplied in the kit.

The letters PC+UA and the V1 on the tail came from Yeoman transfers. Crosses and swastikas came from the HisAirDec German sheets. On the upper wings and tailplane the aircraft had 'black-green' and olive green camouflage. The under surfaces were light blue which extended to the fuselage sides where it merged with a light grey. On top of this a mottled olive and 'black-green' pattern was painted which thinned out as it went down the fuselage sides.

Messerschmitt Me 262 V3 In this variant, the first Me 262 to fly on jet power alone, the instructions given for the V1 can be followed with the exception of filling in the under wing panels for the jets. The undercarriage was moved forward and the tailwheel was used as on the first prototype. Similarly the cockpit has to be moulded separately.

The colour scheme was basically the same on all prototypes. This particular aircraft had the letters PC+UC and a white V3 on the fin.

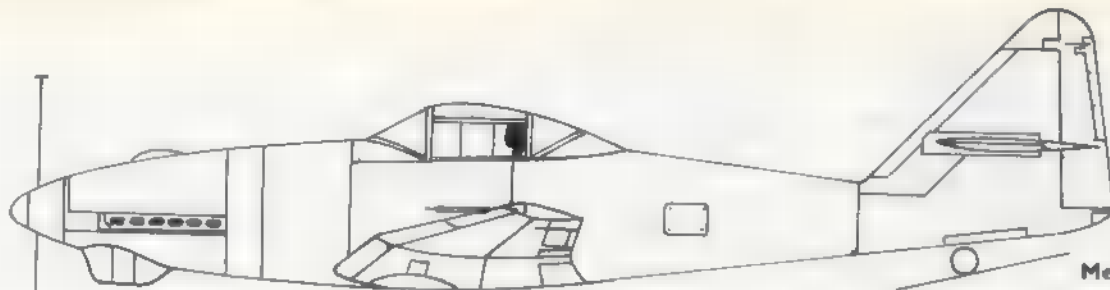
If modellers are contemplating making these two prototypes it is advisable to make them both at the same time. So many operations can be done on one while the other is drying and time waste is cut down considerably.

Constructional details continued on page 131

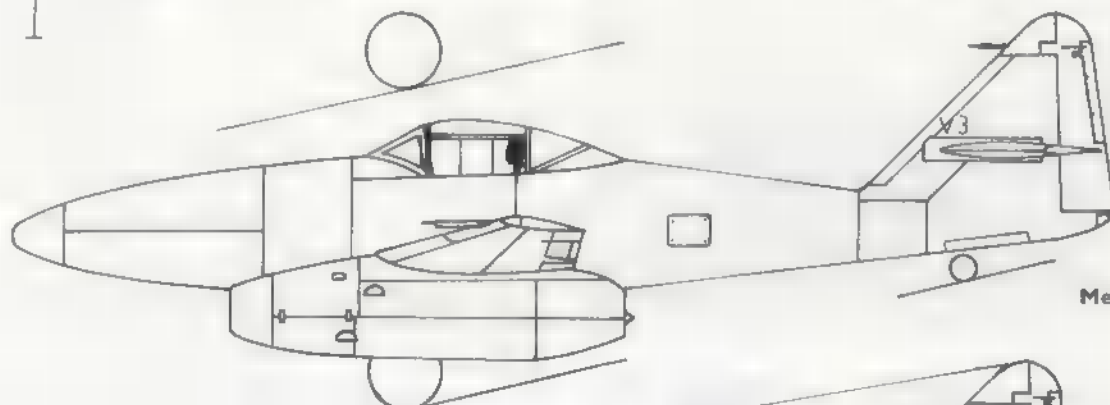


The only surviving Me 262A-2a in Britain seen at RAF Gaydon during the 1966 Battle of Britain open day. The paint scheme is not the original. (R. L. Ward photo).

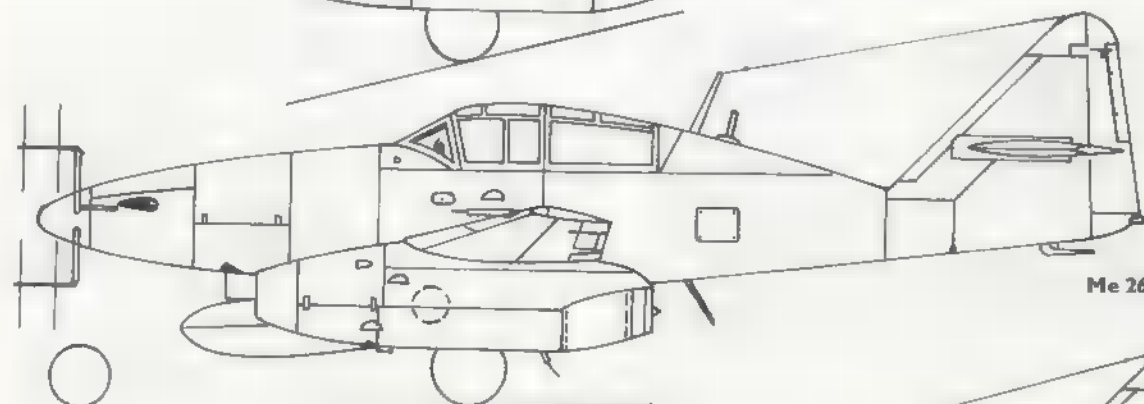
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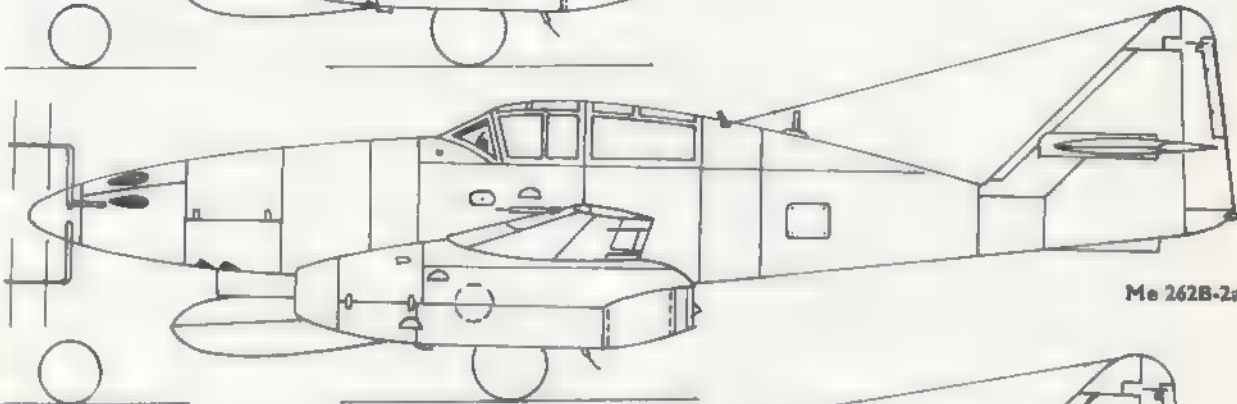
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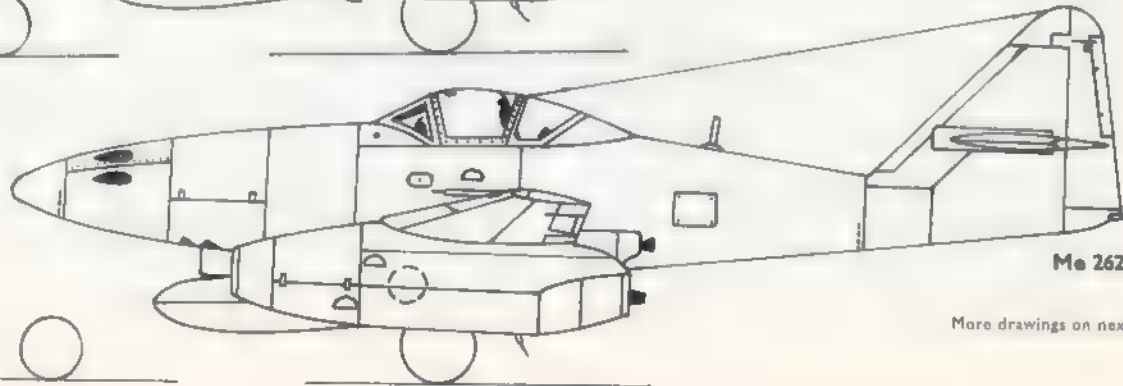
Me 262 V3



Me 262B-1a/U1

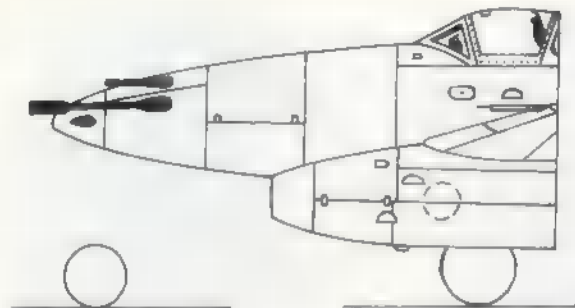


Me 262B-2a



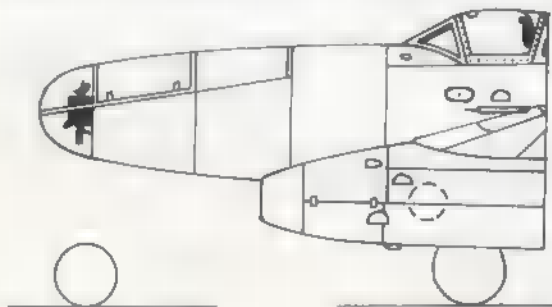
Me 262C-2b

More drawings on next page



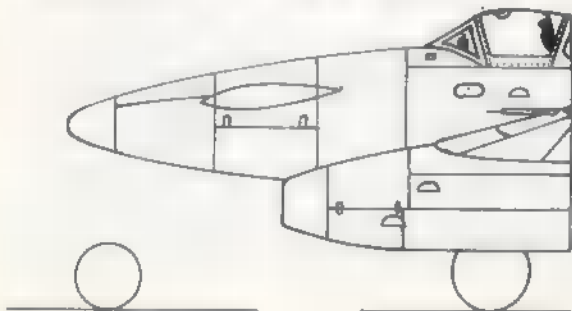
Me 262 V-56

THIS aircraft was used experimentally to test the nose radar on the two later marks of aircraft which were used operationally. It is built as a standard single seater but the nose radar array is attached in a similar fashion to the manner described in the previous article. A drawing of this array which differs slightly from the operational version is also shown in this article. The actual job of stretching the plastic stem is easier as only one piece need be done at a time. The operational aircraft had the horizontal bars joined to one central upright and both ends had to have a second application of heat. Those making the advanced model would do well to practise drawing the plastic on a model of this kind before going on to the other.



Me 262E and A-1 V-83

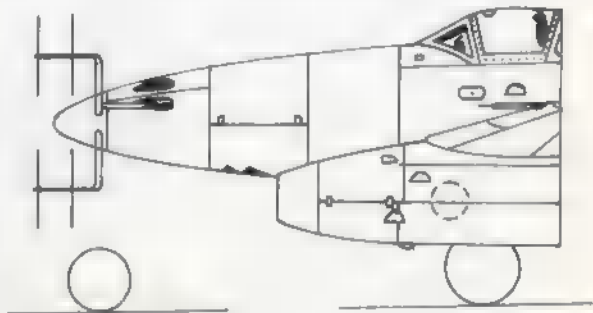
THE kit is completed according to instructions for a single seat aircraft. Fill all gun ports and ammunition chutes and delete the bomb pylon locations with body putty. The gun barrel is made from an Airfix Tiger tank which suits the purpose admirably. Drill a hole in the top of the nose 1/8 inch from the tip and 1/8 inch in diameter. Make the hole parallel to the aircraft's datum line so that the gun barrel when inserted is also parallel. The barrel should protrude 1 1/2 inch from the nose. Cut a small piece of balsa to fit over the base of the barrel on to the fuselage for the fairing. Fill this area with body putty and shape into the blister when dry. This aircraft also had the nose wheel reversed with the wheel appearing on the port side of the strut. A cover made from plastic card slightly larger than the wheel diameter is fitted.



Me 262A-1a/U1

THIS conversion applies to the nose guns only. The nose of the kit is made up according to instructions bearing in mind the slight modifications mentioned previously to the tail unit.

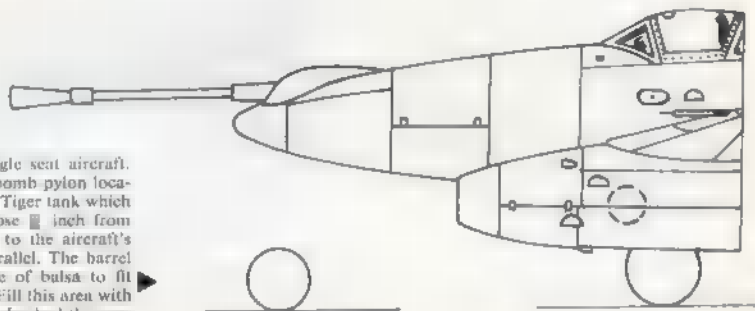
Drill out the extra gun blast troughs the centres of which should be 1/8 inch back from the nose. The cannons themselves are made from heat treated polystyrene stem and filed to fit into the existing blast troughs. Extra ammunition chutes are cut and filed into the under side of the fuselage immediately below the new gun ports.



Me 262A-2a/U2

THE bomber version with the transparent nose. Use is made of one of the side transparent blisters from a B-29 kit for this model. It can of course be moulded separately but the B-29 part fits the requirement almost exactly apart from having the shoulder filed off.

The nose is cut off vertically in a line corresponding to the aft end of the nose wheel well. The cut is stopped at a point 1/8 inch before the bottom of the fuselage line and a horizontal cut is then made from the nose to meet it. Once filed clean, the area is filled with a block of balsa and the transparency marked out on the fore end. The underside of this lines up exactly with the base line of the fuselage. The fuselage contour is then shaped with a knife, filed and sandpapered to fit and given two coats of varying thickness of a talcum powder and clear dope mixture to fill the grain. A bomb sight can be made from scrap plastic. The rest of the model is completed according to kit instructions.



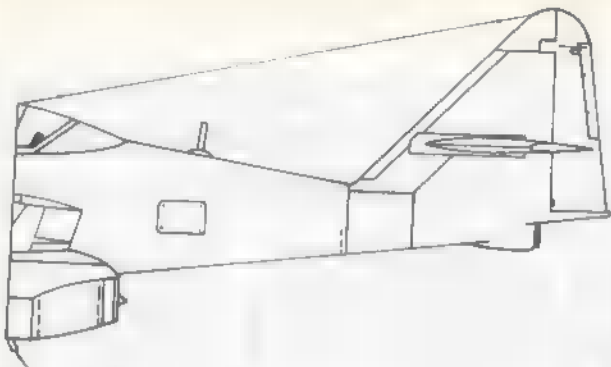
Me 262A-1a/U3

THIS aircraft is the projected reconnaissance version of the Me 262 and again is one of the easier of the variants to build. All gun ports and ammunition chutes are filled and sanded down, and two pieces of balsa 3/4 inch long are stuck on each side of the fuselage ahead of the cockpit. These are shaped into semi-circular fairings, filled with dope and talcum powder solution and sanded smooth. Camera ports are painted on the underside of the fuselage on either side of the nose wheel doors.

All drawings by Barrie Hygate

SCALE 1 : 72

Full-size for Airfix conversions



Me 262C-1a ▲

CUT out base of rudder $\frac{1}{8}$ inch from baseline and add 1 inch square block of balsa under rear fuselage. Shape according to plan and drill $\frac{1}{8}$ inch hole in rear face to take small length of brass tube 1 inch in length for rocket motor combustion chamber. Fill area with talcum powder solution and sand smooth. Complete rest of model as single seat version without drop tanks or bombs.

Key to model pictures below:

- (1) The first prototype of the Me 262V1. (2) The third prototype and the first to fly on jet power alone. (3) The Me 262A-2a/U1 which accommodated a bomb aimer in the prone nose position. (4) The unusual 50 mm cannon in the nose of the Me 262E. (5) The reconnaissance version of the Me 262 belonging to Einsatz-kommando Brunnegg. (6) Only one aircraft of the Me 262B-2a night fighter was flown.

Messerschmitt Me 262B-2a The conversion to this mark should be done in conjunction with the details described in the November issue for the Me 262B-1a/U1. They are basically the same with the exception that the fuselage is much longer and two cuts have to be made, firstly on the panel line forward of the cockpit and secondly $1\frac{1}{2}$ inches behind the first. Both of these cuts are made after Stage 2 described in the previous article. Balsa wood plugs are stuck in place between the various parts of the fuselage. The one forward of the cockpit is $\frac{1}{2}$ inch thick and that aft of the cockpit $\frac{1}{8}$ inch. Once these have dried the new rear fuselage spine can be added and the whole sanded down and shaped as previously described. The cockpit canopy and cockpit detailing can be exactly the same in both versions.

Other variations include a rear fuselage fairing under the tail unit for the *Deichselclapp* auxiliary towed fuel tank. This can be made from verap plastic, glued in position and when dry drilled with a $\frac{1}{8}$ inch hole in the rear face. Another variation is the *Schrage Musik* twin cannon in the fuselage decking, $\frac{1}{2}$ inch aft of the cockpit canopy. The cannons are $\frac{1}{8}$ inch apart in plan, are made from heat-stretched polystyrene stem and set at an angle of 60 degrees leaning forward. It is advisable to drill two small holes to take these cannon after painting has been completed.

Messerschmitt Me 262C-2b This experimental version had rocket motors mounted over the jet engines to give added power. They are easy to make and this is one of the best conversions on which to start. The kit is made up according to instructions apart from using Bf 109 drop tanks instead of bombs. Rocket motors are made from two small balsa blocks 1 inch long and $\frac{1}{2}$ inch square. Each one fits flush to the top of the wing surface and has the edges slightly rounded. A cut-away is made immediately above the jet orifice with a file. Rocket motor exhausts can be made from the cones, which fit into the jet engines, reversed. The rocket orifice can be drilled out of the rear face of the plastic.





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Motherwell
LANCASTER—J. M. Wigley Ltd.,
69/71 Market Street
LEEDS—C. Henry Pickles,
10 Alfred Street and Boar Lane
LEICESTER—Edgar Backus,
44-48 Cank Street
LEICESTER—The Midland Edu-
cational Co. Ltd., 17 Market Street
LINCOLN—J. W. Ruddock & Son
Ltd., 287 High Street
LINCOLN—Musgrave & Co. (Tools)
Ltd., Clasketgate
LINCOLN—Russell Models,
24 Newland & 6 Ryton St., Workshop
LINCOLN—S.P.C.K.,
Steep Hill
LIVERPOOL—Philip Son & Nephew
Ltd., 7 Whitechapel
LIVERPOOL—Precision Model
Engineering Co., 53 White-
chapel
LIVERPOOL—Wilson (Booksellers)
Ltd., Renshaw Street
LUTON—The Bookshop,
14 Barber's Lane
LUTON—Stalker's of Luton,
19 Wellington Street

MANCHESTER—Allied Libraries,
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MANCHESTER—The Model Shop,
7/13 Boodle Street, Deansgate
MANCHESTER—Sherratt & Hughes,
28 Cross Street
MANCHESTER—W.H. Willshaw Ltd.,
16 John Dalton Street

NELSON (LANCS)—Model Shop
(Nelson) Ltd., 57 Railway St.
NEWCASTLE-UPON-TYNE—Harold
Hill & Son Ltd., Killingworth Pl.,
Gallowgate
NEWCASTLE-UPON-TYNE—
Mawson, Swan & Morgan Ltd.,
Grey Street
NEWCASTLE-UPON-TYNE—Model
Shop, Blenheim Street
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of England School Furnishing Co.,
42-44 Grainger Street
NEWCASTLE-UPON-TYNE—
Thorne's Students' Bookshops Ltd.,
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NORTHAMPTON—R. Harris & Co.
Ltd., 6 Bridge Street
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23 Dacey Place
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Ltd., Wheeler Gate, Nottingham
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OXFORD—Blackwell's Exports,
33 St. Aldates
OXFORD—Howes Model Shop Ltd.,
9-10 Broad Street
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103 Walton Street

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Son Ltd., 3 Westgate
PORTSMOUTH—Tip Top Model
Aircraft Stores, 10 Kingston Road
PRESTON—James Askew & Sons Ltd.,
Park Lane Building
PURLEY (SURREY)—G. A. Turner &
Co. Ltd., Russell Hill Place

RAMSGATE—C. J. Pidler Aviation
Bookseller, 40 St. Mildreds Road
(Postal Business only)
READING—Reading Model Supplies,
1 Hosier Street
REIGATE—The Ancient House Book-
shop, 51 Bell Street
READING—William Smith,
37/39 London Road
RUGBY—George Over Ltd.,
21 & 22 Market Place

SALISBURY—H. Simmonds,
29-31 High Street
SHEFFIELD—Hartley Seed Ltd.,
171 West Street
SHEFFIELD—H. Kirk
16A Tudor Street & Tudor Way
SHEFFIELD—A. Ward, 1 Leavy-
grove & 35 Chapel Walk, Fargate
SHREWSBURY—Wilding & Son Ltd.,
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SOLIHULL—Midland Educational Co.
Ltd., 24-26 Station Road
SOUTHAMPTON—Moor's Bookshop,
66 Bedford Place
SOUTHAMPTON—H. M. Gilbert &
Son, 22 Portland Street
SOUTHAMPTON—C. W. F.
Skrimshire, 25 Northam Road, Six
Dials
SOUTHAMPTON—Surridge Dawson
& Co. Ltd., 57/59 Millbrook Road
ST. ALBANS—Paton Books, 34 & 32A
Holywell Hill
ST. LEONARDS-ON-SEA—Bohemia
Bookshop, 116 Bohemia Road
STAFFORD—Bookland & Co.,
34 Princess Street
STEVENAGE—S.P.C.K.,
7 Town Square
STOCKPORT—The Garrick Book-
shop, 8-10 Wellington Rd., South
STOKE-ON-TRENT—S. Robinson &
Co. Ltd., Newspaper House, Hamil
Road, Burslem
STOKE-ON-TRENT—Students Book-
shops Ltd., 2 Broad Street, Hanley
SOUTHEND-ON-SEA—Bobin's
Bookshops, 11/15 Victoria Arcade

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Grosvenor Road

WATFORD—Model Exchange,
71 St. Alban's Road
WATFORD—G. H. Stratton Ltd.,
42 High Street
WATFORD—Universal Stationers,
42 High Street
WATFORD—Watford Bookshop,
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WARWICK—John Gould,
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Ltd., 108-110 High Street
WEST HARTLEPOOL—Frank
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WHITLEY BAY—The Whitley Model
Shop, 67 Park View
WIGTON—T. McMechan,
16 King Street
WINCHESTER—H. M. Gilbert & Son,
18 The Square
WINCHESTER—Michael Narrington
Ltd., 74 Parchment Street
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1 Walton Road
WOKING—Nancy Leigh Bookshop,
Chapel Street
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WONERSH (NR. GUILDFORD)—Wg
Cdr. Prince, "Shellings"
Telephone: Bramley 2238

YEOVIL—E. Whitby & Sons Ltd.,
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LETCHEWORTH—HERTS—ENGLAND



BY BERT LAMKIN



Taped headlamps, racing numbers, and absence of windscreen and bumpers are all that are needed to give your motorised T R 4 A model an authentic look for miniature marque sports car events.

Energising the Airfix TR4A

A PREVIOUS article dealt with motorising the recently introduced Airfix MGB kit and we turn our attention this month to its companion model, the TR4A from the Triumph stable. The method employed with the TR4A is similar to that advocated for the MGB, the Triumph chassis being based on the remaining halves of the Auto Union and Ferrari chassis used in the MGB.

The front half of the Ferrari and rear part of the Auto Union are first trimmed and cemented together to give the correct wheelbase, a piece of the

card with the centre line drawn in and axles marked at the correct centres being very useful for getting things square.

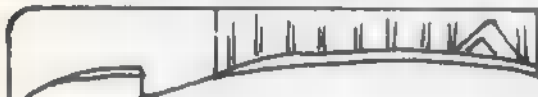
The kit chassis, part 2, is cut somewhat drastically to provide a mounting for the body. Sketch A shows what is left. The two pieces are then cemented inside the body in the correct position. While they are setting, the chassis can be assembled using Airfix motor, braids, and front and rear axles. I used a set with chromed wire wheels which are worth buying as spare parts if you don't already

possess them—they certainly give a concours look to the completed model.

The front seats are cut away to clear the motor and these modified seats also, quite incidentally, make a first-class method of retaining the motor in its correct position. The rear seat, when fitted, will very nicely hold the rear axle in position. The front axle, meanwhile, is held by a small piece of plastic on top of the mounting lugs. Sketches B and C illustrate this. At this point paint the dashboard, part 29, and cement it into position in the body. It is easier to do this work at this stage than when the model is finished.

The next stage is to mount the chassis on a block of wood—a piece measuring about 3 inches \times 1½ inches \times 1 inch is the best size—so that the wheels project clear at either side. A single small wood screw will hold the chassis firmly.

The body can now be placed in position and supported on strips of card to give the correct height in relation to the wheels. When you are



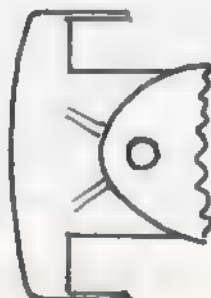
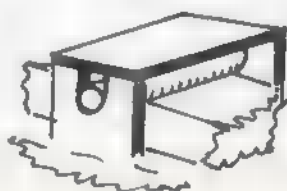
A

All drawings are keyed to references in the text.

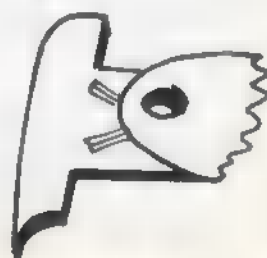


B

C



D



satisfied that the body is level and square, both laterally and transversely, a few drops of cement where it meets the chassis will suffice to hold it in place. Let the assembly set completely before touching it again.

During this time the various other parts which are to be utilised—grille, bumpers, handles, filler cap, hub caps and so on—can be painted and put aside to dry. Paint the windscreen edges and the edges of the rear window, if used, with silver to indicate the framing.

Part 24, the rear seat will need a large section removed to clear the contrate. Then this, together with parts 21 and 22 after being painted, can be fitted inside the body. The front seats, parts 42 and 43, having been cut away and painted can also be fitted inside the body. When these have all set firmly, the car can be removed from the wood block and inverted for part 44 to be cemented in place. This will reinforce the body attachment as it registers with the rear of the chassis as shown in sketch D. While the car is upside down run cement along the join between the body and chassis and allow to dry.

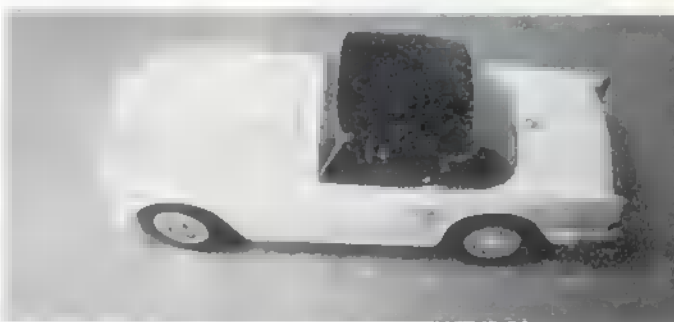
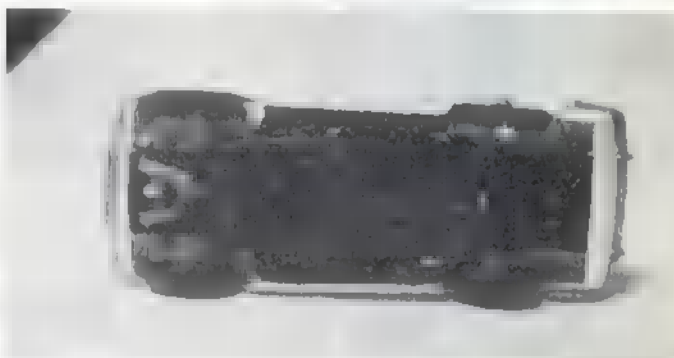
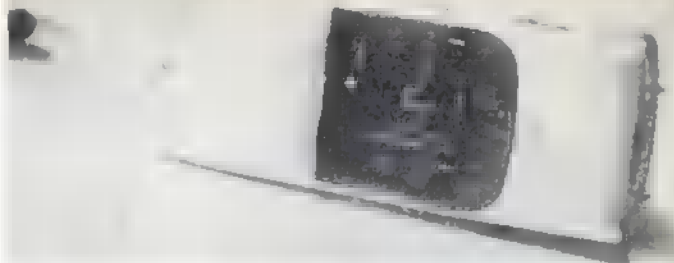
With the car the right way up once more, add the steering wheel; this needs a segment removed to clear the motor. You will also need a suitable driver figure and an Airfix one is ideal when trimmed to fit the seat. The bonnet and grille remain to be fitted and I commend that the bonnet be cemented closed as any racing mishaps would swiftly remove an opening type.

Finally add the trim features such as the lights, windscreen, bumpers, door handles, filler cap and side flashers. Bear in mind, in passing, that

Top view of the completed model shows how the seats are trimmed away to clear the Airfix motor.

Underside view showing how the remains of the chassis used for the MGB motorisation are utilised for the TR4A.

With hardtop in place and chrome wheels, the model retains a true scale appearance.



Triumph TR4A are widely raced in marque sports car events in Britain and in similar races in the States, where, more often than not, they sport a hefty roll-over bar immediately behind the driver. This would allow you to incorporate similar modifica-

tions in the model, the roll-over bar being simply fashioned from heat-stretched sprue. Bumpers can similarly be omitted. If you do leave off the hardtop, I suggest a tonneau cover made from paper to conceal the 'works'.

Military Modelling Continued from page 123

ammunition carrier accompanied T19s into action. The crew was six.

A similar short-lived sp weapon was the T30 which mounted the standard US Army 75 mm Pack howitzer. This was of the same vintage as the T19 and was in turn replaced by the similarly armed M8 as soon as tracked chassis production allowed it. Chassis assembly and modification for the model is as described for the T19 except that the front armoured screen is fitted—either up or down—and should have a notch filed into the top to clear the gun barrel. In this case the mounting plate goes 3 mm above the seat squab height and you can either cut the bulkhead accordingly or use a 3 mm strip of plastic card to raise it to the correct height. I've drawn the gun shield for this model—it is simply a matter of cutting it out face by face from plastic card and cementing it together.

The 75 mm gun is best depicted by a 1/2 pdr anti-tank gun barrel with the breech cut off and the barrel itself cut back

to give a length overall of 18 mm. Judicious filing will give that characteristic 'jacketed' shape of the prototype howitzer. The cradle from the 6 pdr is used in the normal way and this is inserted and cemented through the bottom of the gun shield and acts as a pivot. I also used the sight from the 6 pdr cemented on the inner left side of the barrel. Two ammunition lockers are required and these held 30 rounds apiece. They are of quadrant shape, as drawn, and were open at the front with a canvas screen—represented by paper—as a cover.

Autocar built 500 T30s and the type saw limited service. There was a crew of five and the 75 mm Pack weapon had a range of 9,610 yards. Traverse was 45 degrees either side and the elevation range was -9 to +50 degrees. A removable pedestal mount for a .5 cal Browning was standard and this went at the rear between the fuel tanks. Its position can be seen in the prototype picture; in model form I found that one of the uprights from the DUKW 'pulpit' was ideal.

BASIC RAILWAY MODELLING



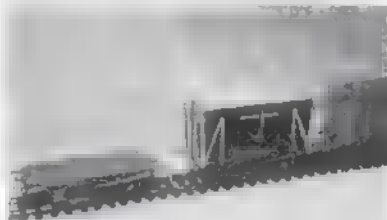
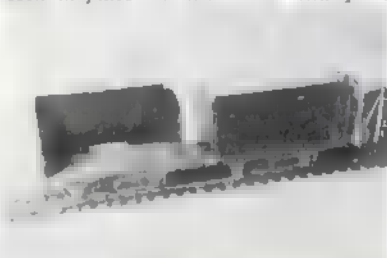
BY **NORMAN SIMMONS**

Southern Railway box vans from Airfix components

NEXT to the mineral wagon which I discussed in the May issue, the most common freight vehicle on BR is probably the four-wheeled box van. In the Airfix range the wagon that most closely approaches this type of vehicle is the Meat Van but this is really a specialist wagon of limited application since, as its name implies, it is mainly designed for conveying meat carcasses—not I should imagine the biggest single source of BR freight revenue. Unless one's layout is a branch line built to serve a slaughterhouse, a wagon fleet made up entirely of meat vans is likely to be rather unrepresentative of full size practice.

The main difference between the Meat Van and ordinary box vans is the extra number of ventilation louvres provided in the former. I must

Below: Stages in assembling box van models on the Airfix Meat Van underframe. Sides, roof, and strapping are seen in place on these three examples.



Above: The basic underframe, on left, and a completed model with all strapping in place and the roof covered.

admit I haven't tried but I should imagine it would be difficult and tedious to remove these louvres and

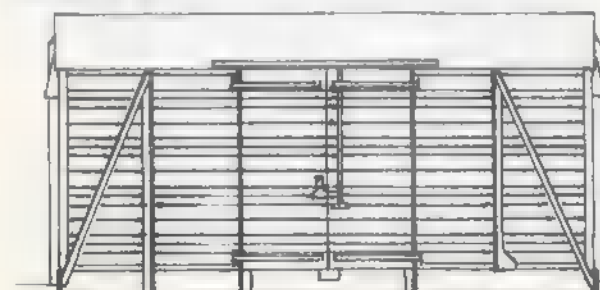
at the same time keep a neat and tidy appearance in keeping with the crisp and finely moulded detail of the Airfix parts. Personally, I preferred to discard the Airfix body parts altogether and scratch build the body from plastic card.


In considering a prototype box van to follow I have always been struck by the distinctive design of the Southern Railway 12 ton box van. The roof shape is the main distinguishing feature, it being much deeper with sharply curved sides, quite different from the shallow even curve of all other van roofs. There are many hundreds still in use and one hardly sees a goods train or goods yard without finding at least one example. With minor alterations they were built before, during and after the last war, not only by the SR but also by the LMS and some were built for the GWR. As a consequence they now bear running numbers for at least three regions of BR and can literally be found anywhere on the system. One can be forgiven for thinking that all goods vans look much alike but to my mind the SR vans are so distinct I am rather surprised no one has thought fit to produce a commercial model, especially when one considers how common they are. Luckily the wheelbase and overall length of the Airfix Meat Van is identical to the SR 12 ton box van so we have a ready basis for a straightforward and relatively easy conversion.

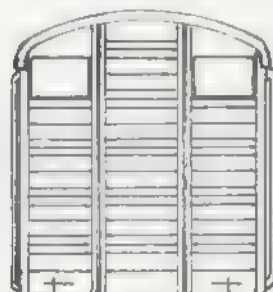
Begin construction by assembling the meat van chassis as at stages 1 to 12 and 14 to 16 inclusive of the Airfix instruction sheet but leaving aside the vacuum brake pipes, stage 13, for the time being. If three-link couplings are required they can be fitted as described in the March issue.

With the chassis assembled we next have to turn to the body. I used 0.40 inch plastic card for all the main body

SR 12 ton  van



Scale 4  to 1 foot



underframe



cross-section showing construction method

parts and this is the material I shall be referring to unless I state otherwise. Mark out the two ends first. These should be the full width of the body, 32.5 mm, since the sides will fit between them. The sides, 67.5 mm long, should be at least 31 mm high. It will be seen from the cross section drawing that the top part of the sides also project into the roof.

With the sides and ends cut out one has to decide what type of body to model since there are three basic variations depending on the materials used. The drawing shows the post-1939 style with unequal planking, a pair of 6 inch planks alternating with a pair of 3½ inch planks. Prior to 1939 the planking was of equal width and there were 11 to each panel. During and just after the war plywood was also used instead of planking giving a smooth external finish. Depending on the type to be modelled the sides and ends should be scored with a pointed instrument to represent the planking. The mineral wagon article in the May issue will show the best way to do this. The plywood bodies will of course need no scoring at all.

Now cement the ends in place above the buffer beams at each end of the underframe. Before the cement has hardened, cement squares of card 30.5 mm × 24 mm inside each of the two ends. These form a ledge on to which the sides and ultimately the roof will rest. It will be necessary to cut out a slot 20 mm × 2 mm at the bottom of the sides to clear the raised doorsteps on the underframe. The sides can now be cemented in place. Square up the body and make sure the bottoms of the sides are level with the top of the solebars.

The doors can next be cut from 0.40 inch plastic card. These should be 26.5 mm × 23 mm with a vertical line scored down the middle to represent the gap between each door. These will I am afraid be dummy doors since they are simply cemented to the sides. Now cement a strip 70 mm × 3.5 mm of 0.40 inch card along the top of the sides immediately above the doors. These help to form the characteristic deep sides of the roof.

I used a block of ¼ inch balsa, 67.5 mm × 30.5 mm for the roof. Before dropping it into place between the sides and ends I advise putting some weight into the body. I made up the total weight of the completed



Above, top to bottom: Box vans made as described here add variety to your layout. Side views of a planked construction van (left) and a plywood covered van show detail differences. Prototype view is useful reference for details. Note particularly the fully arched roof and felt covering, also the unequal planking.

model to approximately two ounces. Now glue the roof in place and allow the glue to dry. The next operation, the shaping of the roof, I found to be one of the most satisfying. The two ends form a template on which to work and the plastic card sides also act as a guide to make sure you don't carve away too much at one time. The shaping was done by eye, carving with a craft knife to begin with followed by file and sandpaper. Most goods vans appear to have the roof covered with roofing felt or canvas and far from being smooth as they often appear in plastic models they are somewhat rough and ragged. I found the best way to finish off the roof was to glue a sheet of thin copy typing paper, 70 mm × 42 mm, over the top. As well as covering up the joins between the plastic card and the balsa and hiding the grain in the latter it also looks much more realistic.

Now we come to the strapping, framing and door hinges, etc. This is a fiddling job but with a little care it is all very worth while. I used 0.10

inch plastic card. The framing at the ends are 'I' shaped and the vertical and diagonal straps at the sides are 'L' shaped. A point to note is that the plywood sided versions do not have diagonal straps—these are definitely the easiest of the three versions to make! The ventilators were cut from one of the Meat Van ends, fitted down to the right thickness, trimmed to size and cemented in place, one either side at each end fitting between the vertical framing.

I think that just about covers the construction side, now the van must enter the paint shop. Colours will depend on the period in time in which your layout is set. SR goods vehicles were painted in dark brown before nationalisation. I mixed Humbrol track colour with matt black to form a suitable dark muddy brown colour and used matt black for the underframe and roof. BR livery for these vehicles since they are brake fitted is Airfix brick red with black roof and underframe. Lettering in all cases is white. You can use the 'XP WB 10.0' transfer from the Meat Van kit but all other lettering will have to be handpainted. I used white ink with a mapping pen. Some numbers I found on a recent visit to my local goods yard were S65854, S48299 and M523333.

After painting, the brake pipes can be fitted in place to complete the model. Cement these in place so that the hose is above the buffer beam.

In case you feel you've wasted the Meat Van body parts, don't despair, you can easily make up the body and dump it in a field or corner of the layout and use it as a store. The end from which the ventilators have been cut can be repaired with plastic card and plastic card can also be used for the floor and underneath supports. I painted my van body, which is now seeing service in a local farmer's field, with matt black paint into which had been stirred a liberal drop of Humbrol track brown. This gave a weathered creosote effect. To further the weathered effect I rubbed in some plaster dust that recently fell on the layout as a result of Rowlplugging some shelf brackets to the wall. The effect is quite reasonable.

Once again, this is another cheap conversion of a standard Airfix kit which adds coppers to the cost of the kit but considerably widens the scope. Perhaps we can consider some more in future articles.



An under-view of 4510 showing its super-matt finish. The black in the Balken-kruz has been overpainted.

PROFILE

The Dornier Do 217K1

A FINE CONVERSION SUBJECT

ONE of the Luftwaffe's most effective bombers was the Dornier Do 217. It came into operational service in 1941, in its E1 and E2 variants. Originally the E2 nomenclature identified the dive-bomber version which was fitted with an elongated tail cone, but shortcomings during its development caused abandonment of this rôle. Thus, many E2s had the long tail cone removed and, although this was the principal version initially to operate, it did so in E1 configuration. Airfix chose the E series when they released

their 217 kit, and between late 1941 and mid-1943 it was this type of Do 217 that bore the brunt of the Luftwaffe's night bombing operations against Britain. Modifications most easily made to the existing Airfix 217E kit concern its armament and external loads, which changed according to the operational requirements. These requirements in-

cluded extended range and weapons for shipping strikes.

By March 1942, a new version, the Do 217E4, had almost entirely ousted the earlier types in both Kampfgeschwader operating against the British Isles, KG40 and KG2. It differed by having BMW 801Cs, in place of the earlier type's BMW 801As.

Basically the 217Es were two-tone green 'splinter' camouflage applied to a prescribed pattern on their upper surfaces, and had light blue under surfaces. In service this factory finish rarely survived long. For maritime duty the upper surfaces were frequently dark grey, over which wavy lines

1. The completed conversion from Dornier Do 217E2 to Do 217K1. 2. Oil streaks have been portrayed above the mainplanes, and traces of splinter camouflage are just visible at the wing tips. 3. A steady hand is the main requirement for applying the small numbers and lettering. Note the radio mast, slanting and re-positioned.



1

2

3

in light grey or light green were applied to produce the 'wave mirror' pattern. Similar colours were frequently applied in a mottle finish. Application of these to a small model is difficult, but mixtures of paint to which turps is added and much flattening agent does at least produce a reasonably realistic finish. Both schemes of grey upper areas were visible on the Dorniers which I saw after they had been brought down over Britain, but the precise patterns

4. My general impression of the paint-work on German aircraft at the time was that it produced a very messy looking aeroplane. Indeed, it was not until after the war that I ever found any Heinkels with 'splinter' camouflage that was at all clearly defined. On my Dornier I have attempted to produce the paint-work of a 'working' aeroplane and not, as so often is the case with models, one in factory finish.



5. Source material: alongside the new fuselage for my Do 217K1 I placed some of my material, in this instance a wartime recognition manual leaflet featuring the rounded nose and the wings of a later Do 217K, a cutting from Flugwelt, some photographs of Dorniers, my wartime diary with some drawings made on the spot of a round-nosed Dornier, a page from Bruce Robertson's Camouflage and Markings and Janes All the World's Aircraft 1945. I found Dora Kurfurst und rote 13—Bond 2 very useful, since it carries some fine photographs.

employed could only be recorded photographically, and even then with not very satisfactory results.

Almost invariably these aircraft had super-matt black sides, under surfaces, and vertical tail surfaces, sometimes painted and often a matt-black distemper finish. The usual black code letters flanking the crosses on the fuselage were then replaced by grey letters, but again a frequent variation was the application of small white codes, paired or in full, at the base of the outer fins. Sometimes the main codes full-size were retained in grey or were partly retained and even re-sited. No rules seemed to have been adhered to, at least not for long. A 1943 variation was the addition of a large white digit or letter on each outer fin surface.

For night operations, modifications to the national insignia were made, sometimes the white and sometimes the black being over-painted in appropriate colours. When the Werke Nr of the aircraft was carried it was applied at the fin tips in white, grey or yellow and in the case of the Do 217E had four digits. A good assortment of 217Es wearing typically varied markings may be found in the photographs appearing in Dora Kurfurst und Rote 13, Volume 2, compiled by Karl Reis Jr. Other examples of 217Es recorded in the war years include 5456; U5+MN ■ Do 217E2 operated by 2/KG2 in April 1942, in splinter and

black finish, with small grey tail codes in white at the base of the fins, and Do 217E4 U5+QN: 5461, finished in splinter and blue 'day' finish, a machine which is believed to have been shot down during the Dieppe landing in August, 1942.

A straightforward modification programme for making the Do 217J was detailed in our issue of July, 1961, but beyond this further modifications call for more radical changes since the noses of the later 217s incorporated an entirely new canopy and layout. Yet, apart from its nose the first of these, the Do 217K0 and K1, differed little from the E4 except in armament, and therefore these are the easiest of the 'rounded nose' Dorniers to produce from the Airfix kit. The work is straightforward, if a trifle tedious.

I decided to opt for a Do 217K1 conversion. First I cut off the front fuselage ahead of the turret mounting, then with the turret base in position cemented the two fuselage halves together. I attached, with a liberal supply of polystyrene cement, a solid block of balsa cut roughly to the shape of the new non-transparent portion of the 217K's nose. Slight changes needed to be made to the shape of the under-turret well, too. I used the short tail cone and assembled as for the 217E. When viewed from the side, the new nose needed to be much deeper than the old and tapered less. Thus, it was necessary to shape the nose, once it was securely attached, to its accurate shape. Then with care I hollowed it out as much as was practical. On reflection I felt it might have been easier to have shaped it if it were not attached to the model. Once fitted, however, it was easier to merge with the fuselage.

The new nose section was sanded, then three coats of Humbrol paint were applied and sanded after each coat with glasspaper. As one coat was drying I cut off the forward portion of the canopy supplied with the kit, at the point where the canopy began to taper. Wings, engines and tail unit were then assembled, as for the 217E. Long-range tanks could be carried by the 217K, and thus were also assembled for possible use.

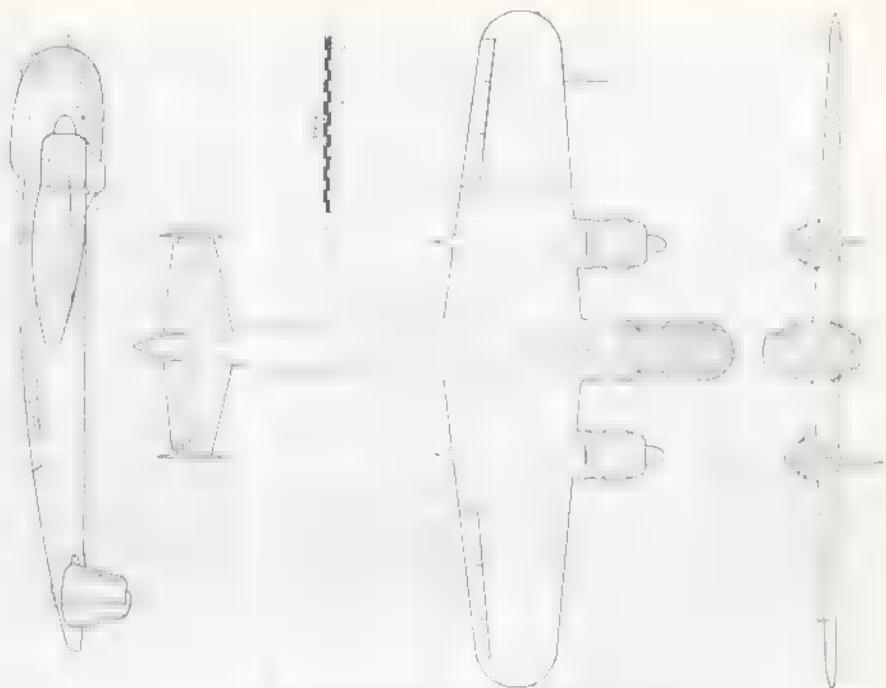
Now came the most difficult part of the entire exercise. I shaped from hard balsa a replica of the nose canopy which I needed to mould. Then I cut a hole in a half-inch sheet of wood into which the nose would fit, bearing in mind that the former would need to be little larger than the cross section of the nose to permit the transparent sheeting to pass through. At no time was I under any illusion as to the difficulty of moulding a comparatively large nose canopy. When I could obtain locally only acetate material too thin or too thick I realised that the task was going to be even more difficult. I was not disappointed, for after various attempts managed to mould the nose. My experimentation led me to discover that it was best with the thin sheeting to use very low temperature as I placed the moulds and sheeting over the gas grill, and needed to be extremely patient.

I slid the old canopy floor into the new nose, setting it a little further forward, and placed a new floor section cut to fit the new nose. The crew was situated as for the 217E.

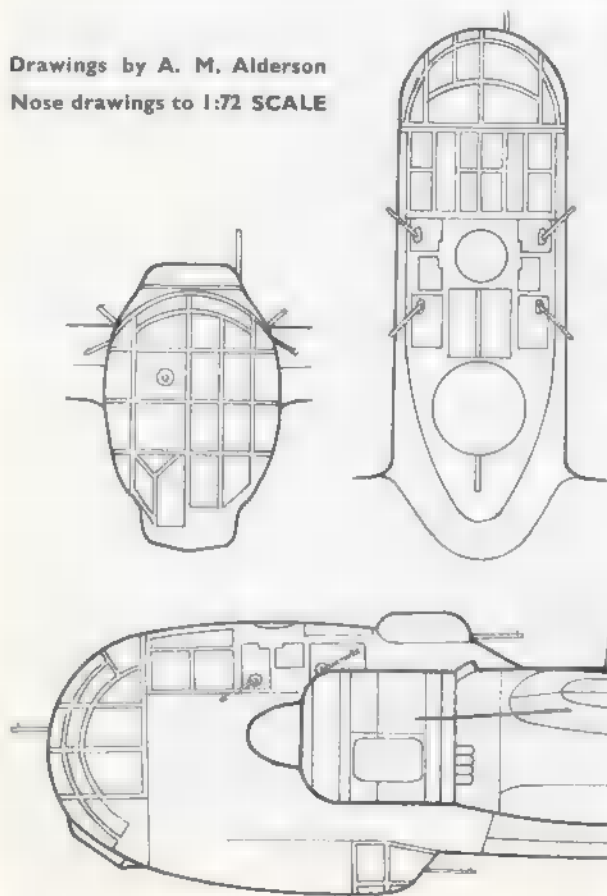
After attaching the new oval nose in place, I encountered another awkward phase when needing to position a further piece of transparent sheeting. This was bent angular at its rear and changed its contours to oval at the forward end, to bridge the gap between the remains of the 217E canopy and the bulbous nose. One gun I had placed in the old canopy and one on the starboard side of the new. The later Dorniers, of course, had various armament. Some

Continued on page 140

General arrangement drawing of the Dornier 217K1 showing the nose shape featured by many of these machines. It can be seen to have an additional protrusion incorporating an optical flat panel for the bomb aimer. This, on the model, would be a difficult addition to make, but could be built up from thin sheeting. It will also be apparent that the model for perfection will really need to cast an entirely new cockpit canopy to obtain the correct curvature. The amount of nose transparency visible varied, since the lower segments on some machines were over-painted.



Drawings by A. M. Alderson
Nose drawings to 1:72 SCALE



Do 217 K1 Continued from page 139

had two guns in the nose. For the rest I proceeded as for the Do 217E. On reflection, I concluded that it might have been easier to have cast an entirely new cockpit canopy to fit the new nose more easily.

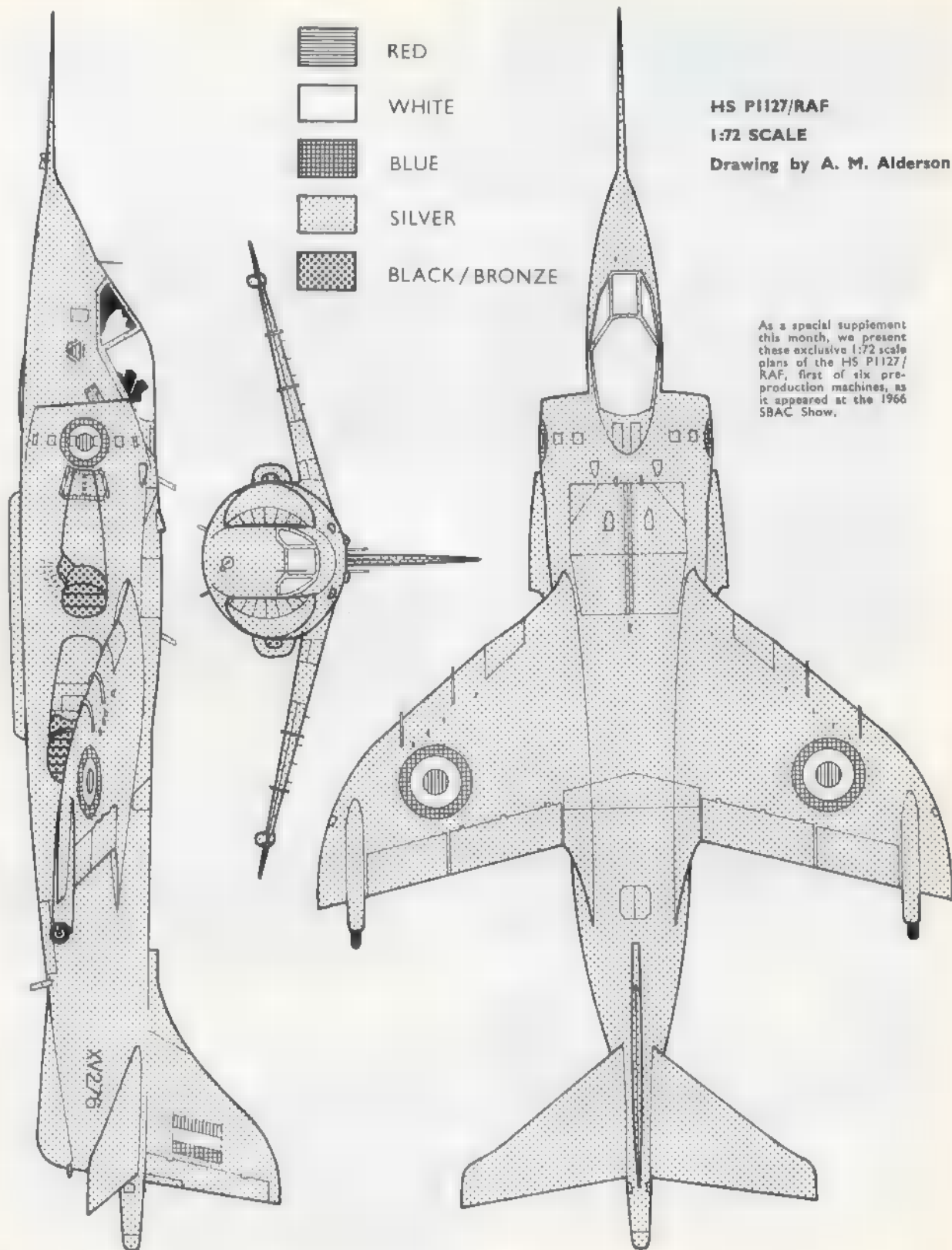
Dornier 217K1s entered service with KG2 in the Spring of 1943 and were integrated on operations against Britain in May, 1943, and steadily replaced the Do 217E4s. A 217K1 used in July 1943 and which I chose as my model subject, was U5+FP:4510. By choosing this machine I was able to use the 'R' and 'E' supplied amongst the transfers for the 217E. I painted the fuselage letters 'R' and 'E' in grey and cut them out as 'P' and 'F'. Since the real aircraft had an ultra matt finish I carefully cut away as much as possible of the transparent glossy areas of the transfers before soaking them.

4510 had very matt black distemper under surfaces, vertical tail surfaces, tail plane under surfaces, and fuselage side surfaces. The top surfaces were a blue-grey, over which had been sprayed a dark mottle finish. Reproducing this on the model was difficult, but by using much Humbrol flattening agent the black sooty finish was easy to achieve. I mixed flattener and turps with the grey blue paint, and before this was really hard applied the dark grey allowing the colours to merge. There was evidence on the real aircraft of splinter finish and this I suggested with some areas of dark grey.

My model subject had 'FP' aft of the fuselage cross on the port side and 'P' ahead on the starboard, the other letter having been over painted. 'US' was painted on the rear fuselage in small white letters. 'FP' appeared at the outer bases of the fins, and 4510 at the fin tips in white. Crosses and swastikas were merely white outline forms. Another Do 217K1 in use in December 1943 was U5+AS: 4476 which had similar paint style and was operating at the time with 3/KG2 from Soesterburg and Deelen.

Michael J. F. Bowyer.

AIRFIX magazine



photoPAGE

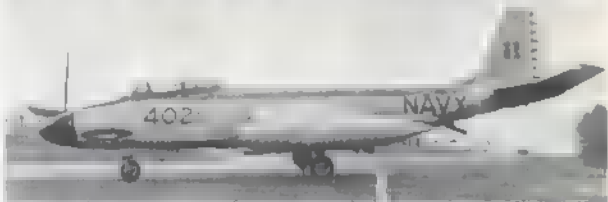
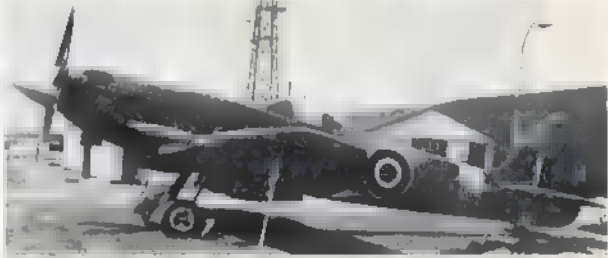
The pictures on these pages are from a forthcoming book on preserved aircraft, and are presented here by courtesy of its compiler, Mr Leslie Hunt. The other views are from readers.

'Photopage' is a regular Airfix magazine feature, and further pictures will be published ■ available. We would be pleased to consider any contributions from readers, particularly of squadron aircraft or interesting colour schemes, and ■ free Airfix kit will be awarded for each picture used. Would intending contributors please note, however, that photographs submitted should be private copyright.

Owing to space limitations, it may be necessary ■ hold pictures for a few months before publication. To ensure safe return, please write your name and address on the back of each print. We cannot use press cuttings.



Charles Kliment of Prague, Czechoslovakia, photographed these exhibits at the Soviet Air Forces Red Banner Academy, Monimo, USSR, where they are among 30 machines preserved for display. Top left: A beautifully kept Tu-2. Top right: Lavochin La-11, coded 20, an example of Lavochin's final design. Above left: Yak-12 communications-spotter plane. Above right: The Il-28, still a widely used type. Aircraft serial is 53005771 painted beneath the nine small stars forward of the code.



Top: This Ju 86K is the last left in Sweden and is preserved by the Swedish Air Force (Photo Bo Widfeldt). Above: The celebrated Neptune 'Truculent Turtle' is preserved by the US Navy at Norfolk, Va, and is, of course, famous ■ the holder of the world's long distance non-stop record holder—11,236 miles from Perth, Australia, to Columbus, Ohio (Photo US Navy).

Top: At RAF Northolt stands restored Spitfire Mk 22, PK624, formerly flown by 614 (County of Glamorgan) Sqn, RAuxAF, and later by North Weald station flight. It was once displayed at Uxbridge with ■ false serial. Above: Preserved Banshee, formerly of 870 Sqn, RCN, and now displayed at HMCS Shearwater (RCN photo).



Top left: The RAF Museum Fw 190 two-seater photographed at Henlow by Ronald Cranham. **Top right:** The second prototype Hunter Mk I, WB195 (7284M), is with the Combined Cadet Force, Solihull, best known, perhaps, for Neville Duke's tests, first of which was May 5, 1952. **Above left:** Anson Mk 19, PH858, photographed at Air Cadets HQ, RAF White Waltham, Berks. **Above right:** Grumman Gosling in the Parc Infantil (Monsanto Park) Lisbon, serial 1248 constructed January 20, 1942. (Photo by Girvan L. Patterson.)



Left: Readers may not know that the prototype Meteor DG202/G, once at RAF Yatesbury gates, is now beautifully preserved at RAF, Cosford, near Wolverhampton. **Below:** Our June issue illustrated a 'mystery' Albacore whose unit we couldn't place. From David Dunstan we've received this view from his father's album identifying the Albacore concerned, N4221:5L (arrowed) as belonging to 817 Sqn.



Above: A Bloch 151 shot down by a Bf 109E in German territory. A frame from a German cine film, the picture was sent in by K. R. Sandford. **Below:** Reader Ari Siren of Finland sent this rare view of the FW 200 C-3 Condor coded KE+IX in which Hitler visited Finland on June 4, 1942.



NEW

KITS AND MODELS

BREGUET 693 FROM HELLER

THE most striking thing about the latest release in the Musée series from Heller is its seemingly small size. The subject, a Breguet 693 always struck us as being a larger aircraft from photographic reference but on checking the dimensions we found these to be correct and the model accurate.

From the collector's point of view, each of these models is a gem as very little reference is really available on these French aircraft from which to produce a 'made from scratch' version and we are sure that many are interested in this particular early war period.

The Heller model is an excellent kit. Detailing is of the highest order and the 57 parts fitted well together though there were tricky moments when fitting the undercarriage section. Care also has to be taken with the many small transparencies which appear all over the fuselage. These are well moulded but the modeller is advised to use something like liquid polystyrene cement to paint the edges of these before putting them in place.

The Breguet 693 itself was a fighter bomber that saw service during the German advance across the Low Countries and Northern France. Markings for the kit represent an aircraft of Groupe de Bombardement d'Assault 1/51, 1re Escadrille.

This 1:72 scale kit can be obtained from most Heller stockists or from BMW (Models) of Wimbledon, who supplied the review sample. Price is 19s 11d. A.W.H.

HISTOREX SOLDIERS

WE have frequently heard suggestions from keen military modellers that modern polystyrene kit moulding techniques should be used to produce miniature military figures in what is probably the most favoured scale of all for model soldiers—1:30, or 54 mm size, as it is known to model soldier collectors.

In fact, we first heard of such a line in polystyrene figure kits more than a year ago, the manufacturers being a French firm by the name of Historex. Supplies at this time were, however, somewhat obscure, but Historex have now appointed British agents who have supplied us with samples of some of the already quite substantial number of items in the range. Being of French origin, the Historex range is largely devoted at present to the First Empire period, ie, the time of Napoleon and Waterloo.

The kits themselves are packed in transparent bags with card headers and come complete with exploded diagrams giving assembly sequence, historical notes, a translated instruction sheet in English, and illustrations of the completed model. Anyone who thinks he has seen some fine moulding in his time will be stopped in his tracks by what the Historex kits offer. These really are for connoisseurs and the manufacturers have clearly set out to produce a kit of parts offering the greatest possible detail regardless of expense. Every conceivable item that could be moulded separately is moulded separately in these kits, and tiny badges, epaulettes, gorgets, aiguillettes, stirrups, bits, plumes, belts, buckles and

other minute pieces are provided as appropriate to the figure concerned. The actual body comes in completely separate components—legs, arms, head, trunk, etc—allowing maximum flexibility when the figure is assembled. Thus positions of arms, head, legs can be chosen as assembly proceeds so that each figure is slightly different to its neighbour.

Ordinary plastic cement is used for assembly, of course, and the manufacturers commend plastic paints or gouache, or a combination of the two, for colouring. Precise uniform details are given with each instruction sheet and in many cases there are optional finishes possible with a figure—in particular where regimental uniforms vary only in detail or in colouring. Details of such possibilities are given in each kit. Different ranks are also accounted for by the provision of optional epaulettes and other distinctive wear. As a final *piece de resistance* the makers offer some kits with a choice of positions—for instance there are 35 different attitudes of horses (all coded) and the purchaser can specify which he wants when ordering a mounted figure kit.

Naturally with such a range of options the prices of Historex kits are higher than would be expected by modellers used to mass-produced kits. Bearing in mind the limited production runs, conversion possibilities, and large range offered, costs are not unreasonable and compare favourably with lead figure prices. Examples from the Historex range: mounted figure kits cost 26s 6d, unmounted figures cost 12s 6d, a super-detail 8 cannon costs 39s, its limber costs 16s 6d, while the complete cannon, limber, horse team, and crew costs £6 19s. Finishing, needless to say, makes or mars these excellent models so while Historex provide a fine basis to work on, the final result depends very much on the modeller. Price lists and lists of kits available can be had from Historex Agents, 3 Castle Street, Dover, on receipt of a large SAE. C.O.E.

LATEST CAR MODELS

WITH Christmas fast approaching the flow of die-cast miniature cars has increased from the manufacturers. From DCMT comes the latest in the new Impy range, a fine little replica of the Volvo P1800 which is priced at 2s 11d and has features including spring suspension and opening side doors. Corgi have produced a straight-forward version of their Cortina Super Estate car without the golfer 'gimmicks' found with the original issue. Complete with opening tailgate, plastic 'simulated wood' side trim, full interior, plated parts and all other Corgi features, this is a good little collectors' piece for 5s 9d. Another new Corgi we have for review is an excellent replica of the streamlined Ford 5000 tractor with steering from the steering wheel, working plough lift, jewelled headlights, and authentic Ford livery. It comes in a gift set with a trailer-mounted working conveyor, the whole outfit making an impressive play thing for 17s 6d.

Major news from Lesney is the first Matchbox car to have working steering. It's a neat little miniature of the Ford Mustang fastback, and the steering works by flicking an inconspicuous

lever low on one side. Scale is 1:65. To go with the Mustang Lesney have released a Bertram cabin cruiser to the same scale—it really floats—complete with towing trailer which can be hitched to the car. A companion release is a splendid model of the Universal Jeep, scaled at 1:63. Finally, in the 2s range comes a replica of the Greyhound long-distance bus. This has split-level seats, suspension and glazing—including a clear roof panel. Top of our selection, however, comes one of the best Lesney's to date—a King Size replica of an S & D Pakamatic refuse truck the prototype of which will be familiar to most people. This has a two-part tipping body used for packing and then emptying the load. This works on the model and other features included a crew cab, glazing, spring suspension, and a detailed interior. Seated at 1:66, it costs 7s 11d. C.O.E.

RIKOCHE MOTOR

RICHARD Kohnstam Ltd have started importing a new range of slot-racing accessories, to be known as the Riko Racewell range. A notable first introduction is the Rikochet motor, a neat streamlined power unit designed to fit either 1:32 or 1:24 scale slot-racing cars. Made in Japan, the motor is of the very popular 'tin-can' type, complete with replaceable brushes, ventilation slots, and ceramic magnets. It has a 10-tooth pinion.

Riko claim a very high performance with this motor, which gives up to 32,000 rpm at 12 volts DC. At 25,000 rpm the torque is .36 ounce/inches and current consumption is 1.02 amps. Our tests give us no reason to doubt these figures. The motor measures 1 $\frac{1}{2}$ inch \times $\frac{1}{2}$ inch \times $\frac{1}{2}$ inch. Very well finished, it costs 12s 11d. C.O.E.

TRENCH SYSTEM

HARD on the heels of the recently introduced Airfix World War 1 soldiers, Merberlen Ltd have produced their most ambitious accessory yet in the Bellona Battle-field range. This is a complete trench system measuring 11 inches deep and 17 inches wide with first and second line trenches and the necessary communications trenches.

This is definitely the most intricate bit of moulding yet attempted by Bellona and they have incorporated firing steps and realistic wood and corrugated iron revetments inside the trenches, with sandbags and earth spoil on the parapets and shell holes appropriately peppering the terrain. At each end of the first line trench is a weapons bay, big

enough to take a trench mortar or machine gun or, alternatively, grenade throwers or observation and signal parties.

Layout of the system accords with official trench warfare theories of the 1914-1918 period, though of necessity the dimensions are reduced to make the system of manageable size. The model layout still looks spacious, however, and we found that one box of Airfix soldiers was assimilated comfortably by our sample, allowing for reserves and casualties held behind the second line. The various shell holes and uneven terrain also provide adequate cover for crawling figures used in scouting and raiding parties.

We were delighted to find that the Airfix figures fitted so neatly into the trenches, the parapet height in particular being just right for soldiers firing from the shoulder. In one or two cases, however, it was necessary to trim down the figure bases to fit the firing step. This latest Bellona model will appeal to most wargamers and it does mean that, with only two such trench systems in opposition, a most satisfying World War 1 wargame could be fought in an area smaller than a coffee table. For more ambitious games, several trench systems placed side-by-side would produce a pleasantly long and complex line of trenches.

The trench system is moulded in earthy-brown PVC, and each unit costs 9s 6d, plus postage and packing of 10d for despatch in a stout corrugated cardboard box. Where additional units are ordered at the same time, the extra postage is 4d per unit.

Merberlen have also revised the design of their river sections, increasing the length to 10 inches and reducing the price to 3s 6d each unit. A blue plastic with watery texture is now used, and the units are designed to fit under the Bellona single-span bridge. New additions to the range are straight and curved stream sections, also with a watery texture, and priced at 1s 6d each unit. These are designed to fit under the Bellona stone culvert bridge. C.O.E.

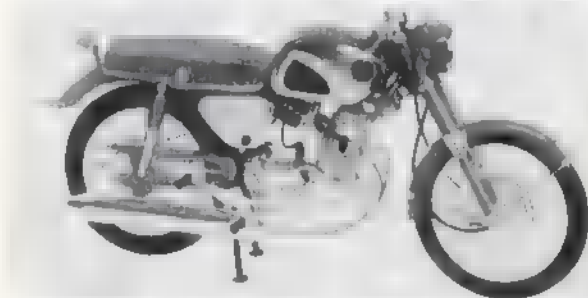
EPOXY ADHESIVE

HUMBROL have just released a new epoxy adhesive known as Britfix 88 which comes in a twin-pack containing a tube of resin and a tube of hardener, priced at 6s the pack. It is designed to bond glass, metal, china, rubber, wood, and most plastics. Modellers should find it useful particularly in conversion work where non-plastics are sometimes used.

Also new from Humbrol are several extra items for the modelling and 'do it yourself' fraternity including Plastic Knotting which will be of great use for anyone working with card. Humbrol claim that their Plastic Knotting does all that shellac can do, only better. The Knotting can also be used as a sealer over bituminous surfaces, and comes in a $\frac{1}{2}$ pint tin complete with brush, at 4s 6d. Another useful introduction is Humbrol Plastic Wood in a $\frac{1}{2}$ pint tin selling for 2s 3d. C.O.E.

BRITISH WINNER FOR REVELL CONTEST

THE World Wide Revell Contest run throughout the summer months in co-sponsorship with Trans World Airlines, drew entries from more than 40 countries. Outright winner of the Open class (16 years of age and upwards) was an Englishman, Mr John Wilkinson of 5 St Davids Close, Iver Heath, Bucks. Mr Wilkinson, an estate agent in Chalfont St Peter, Bucks, has been a keen modeller for no less than 24 years, and is an active member of the International Plastic Modelling Society. The kit he built and entered in the contest, the Revell 1:72 scale DH 2, was judged the best model of the contest, perfect in every detail. This win has earned Mr Wilkinson a two-week vacation in the States as a guest of Revell and Trans World Airlines.



Revell's latest kit release is this fine 1:8 scale replica of a Honda Super Hawk likely to interest all motor cycle fans. Features include 'chrome' plated parts, authentically treaded real rubber tyres, all engine wiring, fuel lines, control cables and 'Honda' transfers. The non-plated parts are moulded in Honda red and there are more than 100 parts in the kit. Overall length of the completed model is 10 inches and it makes an impressive showpiece, though is not really a beginner's kit. Price is 32s 11d.

Letters to the Editor

Letters to the Editor are only be answered in the magazine. Readers whose letters are published each receive a free Airfix plastic construction kit of their choice. We are always pleased to receive your comments and pictures, which will be considered for publication. Submitted material and pictures are only be returned if accompanied by a stamped addressed envelope, and the Editor accepts responsibility for safe keeping of any such contributions, neither does he necessarily agree with views expressed by correspondents in letters columns.

More praise

CONGRATULATIONS on the new style AIRFIX magazine. It's great. The King Tiger model is very interesting as is the Sherman Story. Let's have lots more armoured vehicle conversions. I unfortunately missed a good many of these earlier conversions and am wondering in which AIRFIX magazine the first article appeared.

How about an Austin Chummy Airfix? There are lots of British cars of the 'twenties and 'thirties that would, I am sure, appeal to many modellers, but so far, with one or two exceptions, this period has been neglected by the manufacturers.

From some of the letters that have appeared recently it would seem that some of your readers use very weird methods in obtaining a matt finish on their models. What's wrong with Humbrol matt varnish? I use this over matt paint, too, as I find it helps prevent fingerprints from spoiling the finish, as well as keeping transfers from peeling off.

A. Robinson Cove, Hants.

Military Modelling articles have appeared since August, 1963.—EDITOR.

Colourful Phantom

I AM sending a photo of a US Navy Phantom F-4B. (Reproduced here.—EDITOR.)

The Phantom in the photograph is operated by VF-103 on USS *Saratoga*. The aircraft carrier visited Malta during April and the shot was taken at Luqa airfield. The F-4B was finished in the



usual white/light grey arrangement; the arrow on the fin was yellow with black outline, and the letters AC were also in black. VF-103 and USS *Saratoga* appear in black on the fuselage while serial number 152288 beneath F-4B show up in small letters on the rear fuselage just before the tail-plane leading edge. Code-number 200 appeared on the front fuselage in the usual style, with a repeated O on the top rear corner of the fin, also in black.

It was also noted that the nose radome which we usually paint matt black has a rather almost inconspicuous tinge of brown as compared with the real matt

black of the anti-dazzle panel, while the centre-line belly tank was white with metal-coloured nose. The pilot's name, Cdr Walker, was written in golden letters in a decorative 'Old English' style, just beneath the canopy railings on the port side of the aircraft. It was strangely noticed that, while the aircraft was operated by VF-103, the missile pylons belonged to VF-31.

Charles Stafrace, Paola, Malta GC.

Barrage balloons

IN reply to M. O. Williams' letter I fully concur with him. As I have stated before, the army would starve if it had not been for the old soft tops.

But what about the old barrage balloons? I remember Britains made a barrage balloon and lorry model. The lorry was a six-wheeled Fordson, with the winch on the back of the lorry. To get the balloon up in the air, you had to get a long piece of cotton that went from the winch, through a small ring in the nose of the balloon, to a nail or screw ring in the picture rail, and then back down to another small ring on top of the balloon, then all you did was to turn the handle of the winch and up went the balloon.

The thing that got me at the time (as I was only 10 or 12 years of age) was that the lorry and balloon were both made in lead, the balloon being much larger than the lorry, but when the balloon was up in the air, it never gave the tendency to lift the lorry and so bring itself to the ground.

D. L. C. Manton, Hall Green, Birmingham.

Nostalgic pre-war memories! Britains made this model in OO size as well as their usual 'standard' scale.—EDITOR.

Masking tape

READERS who use masking tape on their models may have had the problem of what to do when the gum backing remains on the painted surface after the tape is removed. Surprisingly, there is a way to get it off without damaging the painted surface.

Get yourself a can of lighter fluid. Personally, I use Ronseal lighter fluid for wick type lighters. Its equivalent British version would probably do equally well. Then moisten a tissue or cloth and rub gently over the sticky area.

The lighter fluid removes a thin layer of paint along with the gum. However, if a little caution is exercised, there should be no problem.

Everyone else mentions kits they

would like to see built, so why should I be any different? I would like to see a 1:72 scale B-36 issued as a companion kit to the excellent B-29!

Richard Marmo, Ft Worth, Texas, USA.

Painting figures

RECENTLY, I was painting some OO scale figures for use on a model zoo (built around Airfix animals) and, to achieve the necessary realism, I found that they would have to have their bases removed. If this is done before the figures are painted, it is difficult to hold them while they dry, whereas, if this is done after the figures are painted, one runs the risk of bending the soft plastic and so chipping the paint. In the end, I came up with the following suggestion, which I thought may be of use to your readers.

A strip of Sellotape is pinned to a length of wood so that the sticky side faces upwards. The hands and faces of the figures are painted first and, when these are dry, the figure is held gently by the head in a pair of tweezers. Then the feet of the figure can be touched on to the Sellotape, where it will remain. It can then be lifted off gently, leaving the paint unmarred.

J. R. Cadle, Enfield, Middx.

Fishbed please

I FEEL sure that most modern military aircraft modellers would welcome a 1:72 scale Mig-21 Fishbed. I would suggest optional parts for a Fishbed-C or a Fishbed-D. Instead of putting it in the markings of the Soviet Air Forces why not give optional transfers for either the air forces of Egypt or Cuba?

If a Boeing B-29 can be produced in 1:72 scale why not a Tupolev Tu-16 Badger?

Please also could you tell me how to mix the 'Tan' for the camouflage on the F-5A and F-4C?

Mark Henly, Isleworth, Middx.

To mix 'tan' use the following Airfix paints: one part G1 Red, four parts G2 Yellow, and one part G9 Brown. Matting agent will of course, be needed for a flat finish.—EDITOR.

Birkin's Bentley

READERS wanting a rather different Airfix Bentley can easily modify it into Tim Birkin's grand prix version which finished second in the 1930 French Grand Prix at Pau. The modifications are simple. Discard the mudguards and mountings, spare wheel, and also the

AIRFIX magazine

headlights and windscreen. The car can be painted green, and racing numbers 18, are painted on the radiator and on the side of the car. A tonneau covered all but the driver's seat; small Union Jacks appeared on either side of the body in line with the driver.

J. J. Clarke, Glasgow.

Metallic paint

FIRST of all let me congratulate you on the new larger magazine. The best issue yet in my opinion.

Now having almost completed the excellent Airfix DB5 with all the gimmicks I wish to finish it in the authentic metallic grey. Can you help in this request?

Also, before my wife sells my Airfix racing cars, please can anyone suggest an effective method of TV suppression. Midnight racing is getting rather boring!

K. R. Perry, Burnhurst, Kent

Humbrol produce a metallic grey paint for application by spray.—EDITOR.

Best ever!

HAVING just read my copy of your October issue, I must write to tell you that I think it is the best ever and well worth the extra 6d a copy. The additional features are really first class and you are to be congratulated on such a splendid magazine.

Long may it be published.

G. W. Watts, Colchester, Essex.

Use hot knife

I READ with interest the article on converting Airfix Motor Racing figures in a recent AIRFIX magazine. As I had a few old figures I decided to try the conversion on them. I did not have the soldering gun which Geoff Snell had but I found that quite reasonable results could be obtained with a hot knife and a steady hand. Used in the same way as the soldering gun it produced similar results for a far smaller expense. If any readers have not tried these conversions I advise them to try as I am sure they will be pleased with the resultant figures.

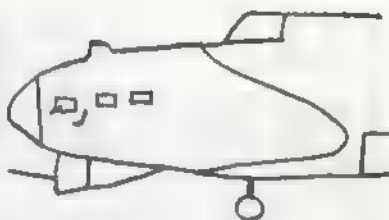
E. Dahlof, Bootle, Lancs.

Hybrid Lib

READERS might be interested in a conversion of a B-24J Liberator which I have carried out. During 1944, in an attempt to improve performance and working room in the nose of the B-24J, a B-17G nose section was fitted to a B-24J, serial 42-73130.

The Airfix Liberator fuselage should be assembled, omitting the nose-wheel doors, and sawn off immediately in front of the front cockpit bulkhead. The Airfix Flying Fortress fuselage should be assembled, and the nose section carefully sawn off at a point immediately behind the bench in the port fuselage half. The B-17 nose should be cemented on to the B-24 fuselage, and faired into the line on the accompanying sketch. The fairing should end $\frac{1}{2}$ inch forward of the bomb bay doors, and the model be $\frac{1}{4}$ inch longer than the standard. Construction is completed by adding a Liberator pilot head, with a slightly thinned-down support shaft, below and between the front and middle windows on the port side of the nose.

December, 1966



Above: Sketch by Mr Piggott shows the join line between the Airfix B-17G nose section and the Airfix Liberator fuselage for the conversion described here; not to scale.

The model should be camouflaged in standard olive drab/neutral grey, and markings 273130 and 30 applied to each outboard fin side, in numbers corresponding to full-size 12 inches by 8 inches and 24 inches by 18 inches respectively.

Details of the original conversion can be found in *Flying Review*, Vol 21, No 2.

J. R. Piggott, Horsham, Sussex.

Irish Spitfires

FIRST of all I wish to congratulate Airfix on the Matador kit. The idea of the hub caps gives larger pieces which are not so easily lost.

Secondly the new AIRFIX magazine is really great. You have made all conversion enthusiasts very happy this month. I am sure, the next job is to find time to keep up with them. In the conversion of the Spitfire to an Irish Aer Chor, Spitfire Tr 9, you show the roundel on the fuselage as being the same size as those on the wing. The roundels on the wings are correct but the one on the side of the fuselage is smaller than the others. I have a negative of the Spitfire 161 which shows clearly the colours on the side but not on the wing. Unfortunately the negative is badly soiled and the print, turned out rather badly.

Paul Spain, Dublin 14.

YOUR article on the Spitfire conversion in the October issue I found interesting and informative. I carried out this conversion some years ago together with a conversion to a Sealife III both of which I finished in Irish Army Air Corps colours.

However I would like to draw your attention to a number of inaccuracies in connection with your article and accompanying drawing.

In connection with stage 2, strange as it may seem, the ammunition blisters were retained by Irish Spitfires although no cannon was carried.

Secondly, perhaps a small point but of interest to the keen modeller is in connection with the chrome band around the spinner. As the original colour scheme of the Spitfire was green overall, consequently the green has extended on to this band.

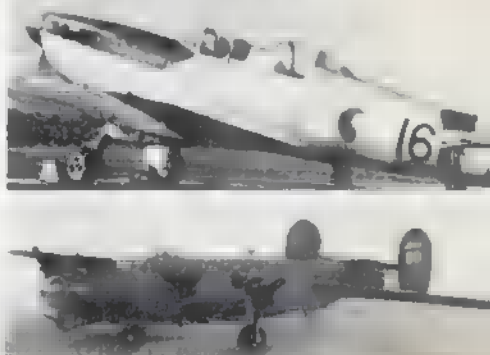
The Celtic Boss insignia on the wings and fuselage are too large. The correct dimensions are as follows: upper surface of wing, 30 inch diameter Boss beginning 4 ft from the tip. The colours in the Boss on the port wing are in the correct position; however on the starboard side the green should be where the white is illustrated and so following

in a clockwise direction. The lower wing surface as follows: 30 inch diameter Boss, 2 ft 8 inches from the tip. Serial 18 inches high with 2 inch stroke, positioned with the digit 1 of the serial 3 ft from the Boss.

The fuselage Boss is 30 inch diameter. Serial 18 inches high with 2 1/2 inch strokes, the first digit is 9 inches from the Boss. The digit 11 should not be rounded as you suggest. This information applies to 158 only. All of the six Spitfires have variations which tend to make them quite unique. In fact 163 never had silver finish at all. Another item omitted from your artist's drawing was the back steps at the wing roots — approximately 3 ft wide on both wings.

In conclusion, I might add that you are mixing the Irish with the English language when you refer to the 'Irish Aer Chor'. Let us just use the English form Irish Army Air Corps. Finally I am glad to see that AIRFIX magazine has included the correct national colours of green, white and orange and not the green, white and yellow so often referred to in other supposedly infallible publications. Thank you for your article and let us have more conversions in Irish Army Air Corps colours.

A. P. Kearns, Dublin 4.



Top: The Spitfire Tr 9 picture referred to by Mr Spain shows the small diameter Celtic Boss on the fuselage and an alternative pattern of painting the anti-dazzle panel compared with aircraft 158 in our drawing. Above: The Liberator with Fortress nose conversion made by Mr Piggott and described on this page.

Rhine Army markings

LAST year I was lucky enough to be able to pay a short visit to Rhine Army and I thought one or two readers may be interested in some points I noticed. The first was that none of the units carry the familiar corps and unit flashes, I enquired about this and was told that they had been done away with for security reasons. Instead all vehicles carried on the right-hand side a black square with a two-figure code in white. The regiment I was with was a Div HQ Signals Regt and carried the code 1/40 in the square. The 1, I think, refers to the division and the 40 to the regiment. On the left-hand side, all vehicles carried a small Union Jack. So far as I know these markings apply only to Rhine Army vehicles.

M. D. Sutor, Haileybury and ISC, Herts.

NEW BOOKS

REVIEWED FOR MODELLERS

Germans at sea

GERMAN WARSHIPS OF WORLD WAR 2, by J. C. Taylor.
Published by Ian Allan Ltd, Terminal House, Shepperton,
Middlesex. Price 25s.

DESPITE the large amount of literature covering World War 2 which has appeared in the past twenty years, a fair proportion of it dealing with German naval activities, the average warship enthusiast has had little readily to hand giving facts and figures on German naval units. Individual books, it is true, have dealt with such subjects as U-boats and capital ships, but little has been published in reference form and even less has appeared in print on the subject of minor German vessels.

Now, at last, Ian Allan have come to the rescue with yet another in their admirable series covering the navies of the second world war. This publication on the German Navy will be an essential addition to the shelves of all interested in naval affairs, giving as it does a wealth of excellent pictures, data, listings and pennant numbers of all ships—including captured vessels—operated by the Germans during the 1939-45 conflict. As in previous books in the series, such details as builders, building dates, and the eventual fate of each ship are also given in brief form. Sinkings are recorded also, in most cases with the name (or names) of the allied vessels involved. Among obscure ships illustrated are the uncompleted carrier *Graf Zeppelin* and all the many small classes of minesweepers, E-boats, escorts, and training ships. Airfix modellers will be particularly pleased with the excellent illustrations of the *Bismarck* and *Scharnhorst*, the latter showing clearly the difference between the original upright stem (as in the Airfix kit) and the clipper bow with which *Scharnhorst* and *Gneisenau* were refitted.

Transports of Europe

EUROPEAN TRANSPORT AIRCRAFT SINCE 1910, by John Stroud.
Published by Putnam and Co Ltd, 9 Bow Street, London WC2.
Price 105s.

THIS is another book in the incomparable Putnam series illustrating in detail various aspects of aviation since its early days. It covers a subject as yet hardly touched by companion volumes and is therefore of great use and interest to the person interested in general aviation. The aircraft illustrated and described range from well-known types from the Fokker and Junkers stable to the lesser-known aircraft which operated Europe's first air routes.

Within its 700 pages it deals with both the technical and historical aspects of all of the transport aircraft designed and built in Europe that have been used for passenger, mail or cargo services. Some 300 aircraft are described. Apart from the interesting histories of aircraft the book includes the German airships.

As is usual with all Putnam books the appendices are of as much use as the remainder of the text matter. In this case the most useful is a list of production and airline fleets in which the

registrations and short notes on all aircraft produced are listed. It is indeed surprising to discover just how large some of the pre-war airline fleets were and although no great details seem to be given of Aeroflot in the post-war list the remainder is most comprehensive. This book is to be thoroughly recommended for all of those people whose interests are in civil rather than military aviation.

Profile flood

CAR PROFILES 25-30 and 31-36; AIRCRAFT PROFILES 121-126.
Published by Profile Publications, PO Box 26, 1a North Street,
Leatherhead, Surrey. Price 2s each.

OUTPUT of Car Profiles has now been stepped up from four to six each month and the latest two issues to appear under this arrangement cover the single-cylinder De Dion Bouton, the Leyland 8, Talbot 14/45-110, 1933 24 litre Napier-Railton, 4½ litre Lagonda, Alfa Type 158/159, 1908-1914 Delaunay-Bellevilles, 30/98 Vauxhall, 1½ litre Aston Martin, Delage D8, Cord 810/812 and C type Jaguar respectively. Authors include such well-known authorities as George Oliver, D. B. Tubbs, J. R. Buckley, Michael Sedgewick and William Boddy.

Like previous issues in the series, each title comes with colour illustrations on the inside covers giving four or five view aspects of specific representatives of the marque in question or, alternatively, a selection of body styles and finishes. The Lagonda and Talbot Profiles are treated in this latter fashion while the Leyland 8 has detail drawings on the inside rear cover and the Railton is an exception altogether, with the centre-spread utilised to show this massive car's bulk to advantage. The texts of all these Profiles are, of course, well illustrated with many rare black and white pictures.

The latest half-dozen Aircraft Profiles cover the Vickers Wellington I and II, the Sea Fury, Sopwith 1½ Strutter, the Curtiss Helldiver, the I-16 Rata and the Reggiane Re 2000. All are excellently produced and would name the Helldiver, Wellington, and Sea Fury Profiles as being of special interest. The main Sea Fury colour drawing depicts the machine in which Lt Carmichael shot down a Mig 15 off Korea, while the Wellington drawing—across the centre-spread—shows a 9 SqN machine that took part in the Kiel Canal raid the day after World War 2 was declared.

Stuka!

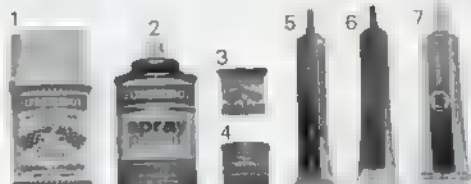
JUNKERS JU 87, by Heinz J. Nowarra and Edward T. Maloney.
Published by Aero Publishers Inc, and distributed in the UK by
Hersant Ltd, 228 Archway Road, Highgate, London N6.
Price 23s 6d (including postage).

THE Stuka has been written about by many authors, but this book appears to give as comprehensive a study as any previously seen. There are many photographs, some of them extremely rare, and it is designed with the modeller in mind.

In fact, the book is almost entirely devoted to photographic studies of the Ju 87 in all its marks and variants. There is a brief history and, in common with other publications in this series, it has a chapter devoted to the plastic aircraft kits available and some notes on converting the Ju 87B into D and G.

Colour three-view plans are printed to 1:72 scale in the centre pages, depicting the Ju 87B used by Major Hans Ulrich, one of the most famous Stuka pilots, when he was commanding the III Gruppe Stuka Geschwader Z 'Immelmann' on the Eastern Front during the Autumn of 1943. Side views in colour are also given of a Ju 87A-2, a Ju 87R-2/Trop, a Ju 7D-3 and a Ju 87G-1.

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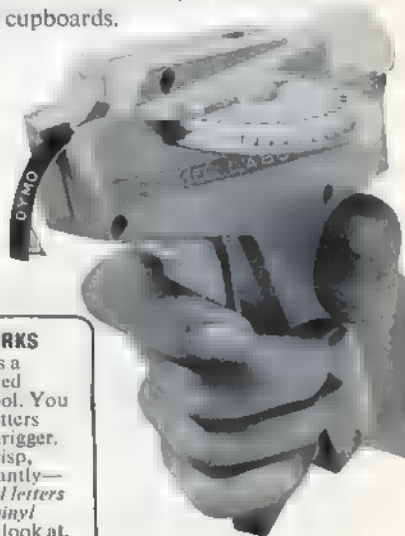
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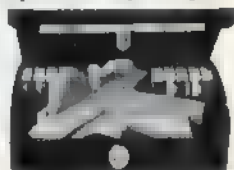
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Would readers please note that the following is a revised list of issues that are out of print: all 1960 editions; January, February, March, April, May, June, July, August, 1961; January, February, October and November, 1962; February, March, April, August, September, October and November, 1963; January, February, March, April, May, June, July, August, September, October and December, 1964; January, February, March, April, May, June, July, August, September and December, 1965; January, February, April and May, 1966.

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